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ABSTRACT

In this look at the near future of higher education, and in light of probable declining enrollments and resources, two perspectives are given, both drawn from existing literature. The first sets forth some of the fears of higher education professionals in one possible, if extreme, scenario: the second, some of their hopes in another. Among the fears: enrollments will fall even faster than the size of the college-age cohort: tax policy and public policy will reduce resources available: colleges will become competitive in destructive ways: faculty will become rigidly defensive: students will, in their power as choice-makers, guide institutions to lower standards: and institutions will lose autonomy steadily. Among the hopes: the college clientele will expand to other age groups: resources will decline slower than enrollments: higher education is politically influential enough to hold its own: academic integrity can be upheld by developing codes of fair practice: the end of expansion allows institutions to concentrate on quality: students will be intelligent consumers: and faculty will establish appropriate priorities for their efforts. These arguments are discussed in detail, with supporting statistical data provided. Courses of action for institutions, states, and the federal government are examined. Appended are: a list and descriptions of the Carnegie Council surveys: a glossary and guide to abbreviations: and a list of references. (MSE)

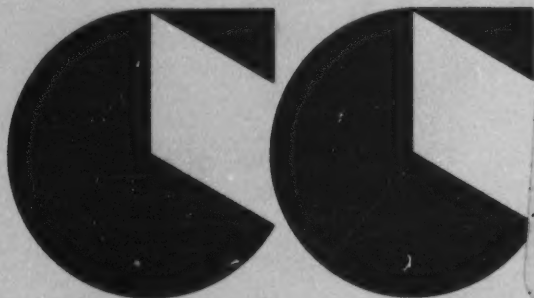
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The Next
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Final Report of
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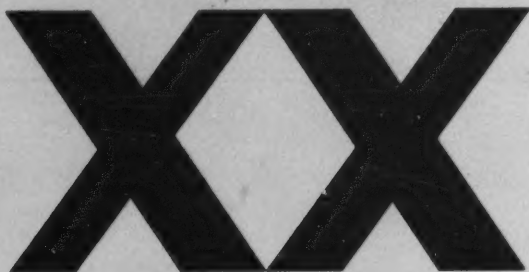


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THREE THOUSAND FUTURES

The Next Twenty Years for Higher Education

The Carnegie Council on Policy Studies in Higher Education

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Martin Trow

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from Golden Years through
Steady State
*Earl F. Cheit, Theodore E.
Lobman*

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Note: The following supplements will appear only in the forthcoming edition of the complete final report of The Carnegie Council on Policy Studies in Higher Education to be published by Jossey-Bass in 1980.

Supplement A. Sources of Funds for Higher Education

Supplement B. Carnegie Enrollment Projections

Supplement C. The Labor Market and Higher Education

Supplement D. Gainers and Losers Among Institutions of Higher Education

Supplement E. Higher Education and Human Performance

Supplement F. Equality of Opportunity and Equality of Earned Income

Supplement G. Academic Schedules and the Split-level Week

Supplement H. Faculty Development Present and Future

Supplement I. Instructional Costs and Productivity, 1930-1977

Supplement J. A Comparative Review of Scholarly, Scientific, and Technological Progress in the United States

Supplement K. Smoothing Out the Flow of Young Scientists into Universities

Supplement L. State Support of Higher Education

Introductory Note on the Carnegie Council on Higher Education

The report that follows is the last in a series of topical reports issued by the Carnegie Council on Policy Studies in Higher Education, 1974-1980.¹ This series has followed one by the Carnegie Commission on Higher Education, 1967-1973.²

The Council owes a debt of deep gratitude to the members of its staff whom we list below with their titles:³

Margaret S. Gordon, *Associate Director*

Verne A. Stadtman, *Associate Director and Editor*

¹A *Summary Report on the Carnegie Council on Higher Education* (forthcoming) contains the digest of each report of the Council and of each research study published by the Council. It also lists the prior reports of the Commission and sponsored studies undertaken for the Commission. In total there have been 40 reports and 120 sponsored studies.

²For a summary of the work of the predecessor Commission, see *Priorities for Action: Final Report of the Carnegie Commission on Higher Education* (1973a); *A Digest of Reports of the Carnegie Commission on Higher Education* (1974); and *Sponsored Research of the Carnegie Commission on Higher Education* (1975).

See also Mayhew (1973); Wren (1975); Piifer (1975); and, for a European point of view, Embling (1974).

³This list includes all persons who have served half-time or more for two years or more of the Council's existence, or who served for the last six months of the Council's term.

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Robert O. Berdahl, *Senior Fellow* (1974 to 1976)
Nancy A. Blumenstock, *Editor*
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Scott Wren, *Research Associate*
Sylvia Zuck, *Secretary*

The present membership of the Council is shown in the signatures to this introductory note. Other persons who served as members of the Council, with their dates of service, have been:

William G. Bowen, 1974 to 1977
Ernest L. Boyer, 1974 to 1977
Philip R. Lee, 1976 to 1977
Pauline Tompkins, 1973 to 1976
William Van Alstyne, 1973 to 1976
Clifton R. Wharton, Jr., 1973 to 1975

Serving as members of the Council in all but title, attending all meetings, participating in all discussions, commenting upon all reports, and being helpful in many other ways have been the following members of the staff of The Carnegie Foundation for the Advancement of Teaching:

E. Alden Dunham, *Secretary*
 David Z. Robinson, *Vice-President*
 Richard H. Sullivan, *Treasurer*

We also greatly appreciate the attendance at several of our meetings of Jack W. Peltason, President of the American Council on Education. David Riesman of Harvard has similarly attended quite regularly and has gone over each report in great detail in advance, making comments that draw on his unique knowledge of American higher education. We all, particularly the members of the staff, have learned greatly from him.

The Council has met on the following dates and in the following locations, benefitting on most of these occasions from opportunities to meet with many leaders of higher education, literally hundreds of them in total:

<i>Dates</i>	<i>Location</i>
December 17, 1973	New York, New York
April 1, 1974	New York, New York
April 15, 1974	Claremont, California
May 29, 1974	New York, New York
October 8-9, 1974	Berkeley, California
January 9-11, 1975	Berkeley, California
February 6-7, 1975	Berkeley, California
April 14, 1975*	Salt Lake City, Utah
May 5-7, 1975	Princeton, New Jersey
June 18-19, 1975	New York, New York
October 10-11, 1975	Washington, D.C.
November 19, 1975*	New York, New York
January 8-9, 1976	Tampa, Florida
February 5-6, 1976	Berkeley, California
March 25-26, 1976	Berkeley, California
April 12, 1976*	Ann Arbor, Michigan

* Joint meeting with The Board of Trustees of The Carnegie Foundation for the Advancement of Teaching.

June 14-15, 1976	Albany, New York
October 21-23, 1976	Toronto, Canada
January 6-8, 1977	Berkeley, California
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November 16-17, 1977	New York, New York
January 11-13, 1978	La Jolla and San Diego, California
April 15-16, 1978	Wellesley, Massachusetts
June 14-16, 1978**	Nortre Dame, Indiana
October 10-11, 1978	Washington, D.C.
November 15-16, 1978	New York, New York
February 8-11, 1979	Ajijic, Mexico
April 24-25, 1979	Berkeley, California
June 20-22, 1979	Missoula, Montana
October 4-6, 1979	West Greenwich, Rhode Island

The Council has had the advantage of good advice on several of its reports, including the present one, from members of the Technical Advisory Committee whose names and affiliations are:

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** Joint meeting with members of Carnegie Commission on Higher Education.

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The Trustees of The Carnegie Foundation for the Advancement of Teaching have given us excellent support throughout. At each of their two annual meetings, the Council has met with the Foundation Trustees to discuss the contents of one or more reports. Trustees have reviewed these drafts most carefully and given their advice. Several of the reports have been issued in their name. The membership of the Trustees has been as follows, with the titles they held at the time they served:

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Jossey-Bass Inc. has been the publisher for the Council, and we thank the staff for their advice, cooperation, and service.

Above all, the members of the Council wish to express profound appreciation to The Carnegie Foundation for the Advancement of Teaching for giving us a privileged opportunity to learn more about American higher education, and to express our opinions about its course of development and about the public and private policies we think may best advance its welfare.

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Introductory Note

xxi

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THREE THOUSAND FUTURES

*The Next Twenty Years
for Higher Education*

The Fears of Some and the Hopes of Others

Since 1870, enrollments in higher education have grown at a compound annual rate of 5 percent; ahead of the total population growth of 1.6 percent. Resources used by institutions of higher education have increased from what we estimate was 0.1 percent of the GNP in 1870 to 2.1 percent presently (not including construction).

During the next 20 years, enrollments may fall even as the total population continues to rise; real resources available to and used by colleges and universities also may decline, even if and as the total GNP keeps increasing.

This dramatic new situation has given rise to a great sense of uncertainty within higher education, to many fears and to some hopes.

We set forth some of the fears expressed by individuals within higher education without endorsing them but rather as one possible, if extreme, scenario. We do the same, with the same qualification, for some of the hopes that have been set forth. In each case, we wish to emphasize, these are views set forth by others and are not necessarily our findings. We then note that this report will discuss our own view of the future, which relates to both some of the fears and some of the hopes and that it will comment on which of the fears and which of the hopes we think are most likely to be realized—and we believe, as our

analysis will show, there will be some of each. We also set forth courses of action we believe may reduce some of the fears and give realization to more of the hopes. What is certain is that, at this turning point in the history of higher education, the new uncertainties have given rise to an explosion of expressions of both the fears and the hopes.

Fears in the Outlooks of Some

- Enrollments will fall even more than the size of the historic college-age cohort (18-21) because a glut of former college students in the labor market is driving down the salaries of college graduates. It has been projected that the combination of a smaller age cohort and reduced prospects for college graduates in the labor market may cause enrollments to decline by 40 or even 50 percent.
- The combination of tax limitation movements plus other higher priority competing claims on public expenditures will reduce the resources available to higher education. At the same time, inflation raises the costs of providing a higher education more than other costs rise because there is no gain in productivity, as there is in most other sectors of society, to help offset these higher costs. The return on endowment has already declined drastically and may virtually disappear as a source of income. The financial situation of higher education is therefore even more threatening than are its enrollment prospects.
- Colleges and universities will compete for ever more scarce students in destructive ways—including false advertising, easy academic credits, soft courses, grade inflation. To an alarming degree, some of this happened even *before* total enrollments started to go down. Public confidence in higher education erodes. Controls increase.
- Faculty members first refuse to recognize the gravity of the new situation and then react in rigidly defensive ways, through collective bargaining and attacks on presidents and trustees, when adjustments are proposed. Faculty members are becoming older and farther removed from the students, are mostly white men

blocking women and minorities from employment, are more tenured-in.

- Both the number and quality of persons willing to serve as administrators decline as the positions become more difficult and subject to more harassment.
- Students, with their new-found influence through choice of where and in what they enroll, increasingly guide institutional developments toward lower standards of academic conduct and quality. The counter-culture of the students overwhelms the high culture of the academics. Students drop in and drop out; now here, now there.
- Public authorities will penetrate ever farther into the internal life of institutions, increasingly determining what shall and shall not be done. They will undertake to manage the decline of enrollment by direct intervention both quantitatively and, more ominously, qualitatively.
- The private sector of higher education will be decimated because it cannot compete owing to its higher tuition; meanwhile, public controls and public financial support make it only quasi-private — reducing its rationale for continuation.
- The future of institutions is only marginally in their own hands.
- Research is adversely affected because young scientists are no longer hired and older scientists tend to become less productive.
- All institutions of higher education are becoming or will become less dynamic in their development; more torn by internal stresses and strains in a Hobbesian world of "every man against every man"; more creatures of the public will expressed through bureaucratic controls than free-standing, self-governing entities.
- Campus governance is already turning from a tone of cooperation and mutual tolerance to one of competition and mistrust.
- The electronic revolution of cassettes and computers and TV sets tied into satellites makes classroom-type higher education increasingly obsolete; and colleges fight rather than embrace the new technology, driving it into commercial channels.

This is not just a series of Lamentations by a few academic Jeremiahs. Some of these fears are already actualities, and there are many people in higher education who are expecting the worst.

Hopes in the Outlooks of Others

In contrast to these fears, there are optimistic signs:

- Enrollments do not fall all that much; they might even rise—perhaps as much as 25 or even 40 percent. Older persons and foreign students take the place of the missing 18-21 year olds.
- Resources go down, but not as much as enrollments, as tuition rises and states and the federal government continue their historic good support of higher education—and they can afford to do this because per capita income keeps rising and they are realizing savings anyway on the reduced enrollments.
- Higher education is politically influential enough to hold on to its current share (2.1 percent) of a rising GNP, like farmers holding on to parity. Vastly increased student financial aid makes it pay to be a student; and unemployment in the labor market impels youth into the colleges. Enrollment never falls; it may even rise significantly. Universal attendance is the next historic stage of development after the realization of universal access. All it takes is large enough federal and state subsidies of students.
- Colleges and universities develop codes of fair practices, through the leadership of the American Council on Education and other national associations and regional accrediting agencies, and preserve the academic integrity of higher education.
- The end of expansion, and even the discipline of moderate contraction, allows institutions to turn their energies to the quality of education. More time and thought can be given to educating the new and even more diverse student body, and to new ways of linking research and public service to instruction.
- Faculty members develop realistic expectations and place the long-term welfare of their institutions above sectional and private interests. Imaginative personnel policies make it possible to keep a small flow of high-quality young faculty members entering the system, including women and minorities.
- Trustees choose administrators more carefully for their leadership talents and give them better support; they also work harder to raise more private funds.
- Students want a good education by and large, and they are intelligent consumers. They choose the best academic institutions and the best programs, and these areas of higher education prosper.

They will, in any event, constitute a more buoyant generation facing better prospects in the labor market.

- Public authorities will exercise self-restraint in further intrusion into the internal life of institutions.
- The private sector has great strength to start with, and both the states and the federal government will give it increasing support without reducing its autonomy. Only the weakest institutions, both private and public, are shaken out, and this actually strengthens the system as a whole.
- The federal government, perhaps in concert with industry, steps in to assure an adequate flow of young scientists into universities; and gives greater support to basic research generally.
- Colleges and universities stay flexible and preserve the quality of their internal life.
- Colleges and universities use this period as a time for reshaping their organization and philosophies to the needs and challenges of the twenty-first century.
- The new technology supplements older forms of instruction but does not replace them.
- The nation surges ahead with renewed vitality, and higher education makes central contributions to this forward thrust.

This is not just a utopian vision. There are those within and without higher education already acting as though it were the reality of the future.

Which Future?

Either of these scenarios could happen in relatively full measure, or large elements of one could be combined with large parts of the other.

Which is the more realistic scenario? Or, better, which parts of each scenario may be the more realistic possibilities?

What can be done by individuals and institutions to help realize the hopes and eliminate the fears?

These are the central questions to which this report is addressed. Many others, of course, already have addressed, are addressing, or will address these same questions and come up with different answers than those we give. There are many differences concerning both what may happen and what should be done. We

base our views on the studies we have made and the many discussions we have held over the past six years.

We recognize full well the hazards of trying to describe the unknown and unknowable, but we believe that the views people hold of the future, both when they turn out to be right and when they turn out to be wrong, help to shape that future in fundamental ways. The purpose of all policy is to change the future and, thus, how we see the future affects how we seek to change it. Policies adopted by both public and private bodies, based on the views they hold, can affect the future for better or for worse. We set forth a selected list of policies that we are convinced will lead to better results for a crucial segment of American society so that higher education may serve more effectively the people and the institutions of the United States. We express our judgment about what is most likely to happen and about what should most urgently be done.

We address this report:

- To the leaders of each institution of higher education — trustees, presidents and faculty—with the message that there are some long-term problems ahead that require early attention to long-term solutions.
- To state planners with the message that a too negative view of the future may turn out to be a self-fulfilling prophecy, and that creation and use of fair competition in the student market is a better alternative than increasingly detailed state control in managing a decline in enrollment.
- To the federal government, which can take some highly useful but not very costly actions.
- To all those who can contribute private funds to colleges and universities (alumni, corporations, foundations) with the message that their contributions are the best guarantee of continued autonomy for all of higher education and of high quality in its most future-oriented functions of scholarship, of training the highest skills, and of commenting constructively on the functioning of society.

We give special attention in this report to enrollments, not for their own sake or for the sake of survival of institutions or some of their component parts, *per se*, or out of pity for the plight of an over-

expanded industry. We are concerned, rather, that in a largely enrollment-driven system of higher education decreasing enrollments can potentially have unfortunate impacts on academic excellence, on accumulation of scientific knowledge, on future capacity to interpret the past culture and the current human predicament, on the tone and spirit of an essential segment of American society, on the survival of private initiative and institutional autonomy.

There are other major axes along which higher education is developing in addition to the demographic, including:

- The axis of greater equality of access to higher education for minorities, women, and adults; and of improving opportunities for youth outside of higher education
- The axis of innovation: new ways and new times and new places to undertake higher education via both traditional and non-traditional colleges and what we call later the Second and Third Sectors of postsecondary education, and via the new technologies
- The axis of greater governmental impact on higher education through control of institutions, public support of both public and private colleges, public support of students in meeting their costs, intervention by way of regulation, and intervention by the courts.

We make reference to each of these axes in this report.¹

Discussions of the future of higher education, in our judgment, are often too dominated by gloom and doom, even by a sense of panic: all certain changes are said by some to be for the worse, and uncertainty additionally is said to be unlimited. Some of these observers seem to have been unprepared for any unfavorable changes in the status quo ante. For too long they seem to have expected that

¹We call attention to three forthcoming reports by members of the staff, separately published, which discuss in more detail topics treated briefly in this report: *The Venture Capital of Higher Education: The Public and Private Sources of Discretionary Funds* by Martin Kramer; *When Dreams and Heroes Died: A Portrait of the Post-Sixties College Generation* by Arthur E. Levine; *Academic Adaptations: Higher Education Prepares for the 1980s*, by Verne A. Stadtman.

The Council also undertook a special survey of developments in and opinions about higher education involving replies from 570 carefully selected institutions. A description of this survey (identified in the text as Carnegie Council Surveys, 1978) appears in Appendix A. This appendix also describes other Carnegie surveys upon which we have drawn. Appendix B defines some technical terms we use in this report.

everything would get better and better, that continuation of the Golden Age of higher education was a matter of right; they seem to have forgotten the age-old cycles of advance and retreat, the long history of new problems following on old solutions.

Our version of the future is, instead, that problems, even severe problems, lie ahead, but that there are reasonable solutions to most, if not all, of them; that it is better to plan to meet the future effectively than just to fear it as a new dark age. The performance of higher education becomes ever more important to the welfare of the nation, and thus it becomes ever more important for the nation to insure the continuing welfare of higher education—this is both highly necessary and reasonably possible. Becoming somewhat smaller is, we believe, compatible with becoming somewhat better.

Base Point: 1980

Much has been happening to and within higher education in recent years. These developments form the background from which the rest of the twentieth century is approached. They define the base from which the future is approached. Reference to these trends also helps to make the point that the ensuing period may also bring many changes; that the status quo of today will not be the status quo of tomorrow.

Heredity can be a strong force in higher education¹—the Catholic Church and the early universities of Western Europe are, among all the institutions in our historical tradition, the ones that have continued least changed in form and function.² Yet institutions of higher education do change, including when, as in the United States, they are heavily connected to a fluctuating student market as compared with when they are more tied to the conservative influence of the academic guild of the professors or to an established state ideology and plan. And student markets in our society will be even

¹For a discussion of the major role of heredity in higher education, see Ashby (1967). He states that it is much more profitable to reflect on the "future of heredity" than on the "future of the environment of universities." However, in this report, the Council does reflect on those parts of the future environment that are already more or less known, or, at least, can be speculated about with some caution.

²Taking, as a starting point, 1530, when the Lutheran Church was founded, some 66 institutions that existed then still exist today in the Western World in recognizable forms: the Catholic Church, the Lutheran Church, the parliaments of Iceland and the Isle of Man, and 62 universities. Universities in the past have been remarkable for their historic continuity, and we may expect this same characteristic in the future. They have experienced wars, revolutions, depressions, and industrial transformations, and have come out less changed than almost any other segment of their societies.

more overwhelming in their impact in the two decades ahead. Institutions of higher education also change rapidly, of course, in the process of civil revolutions and in the process of economic development.

We start this analysis of the contemporary situation of higher education in the United States by taking a retrospective view of the 1970s.

Some Myths About the 1970s

We would like to challenge the conventional wisdom about the 1970s—that it was a decade of disaster for higher education. We believe a new perspective is needed about where we have been and where we are now. How true are some standard assertions?

"Most institutions lost enrollment." Actually, most institutions (59 percent) gained full-time equivalent (FTE) enrollment. Only 29 percent lost enrollment. The remainder stayed more or less even. Total enrollment rose by 24 percent (see Table 1 for these and other data).

"The private institutions have been badly hurt." Actually, enrollments (FTE) overall increased significantly—by 16 percent. Enrollments in the private sector declined as a percentage of the total but, if this sector is looked at on its own, it prospered overall in the 1970s. Private institutions were still spending one-third more per student-credit-hour on instructional costs than were public institutions. The situation of institutions per se is less clear. If all institutions, as classified by the U.S. National Center for Education Statistics (NCES), are included, it appears that there were substantially more private institutions by 1978-79 than in 1970. This, however, is mainly due to two factors: (1) These figures include specialized institutions, most commonly theological seminaries, and (2) they also include, as new additions, pre-existing institutions that became newly accredited. Our own analysis, which excludes both of these categories, shows a decline of private institutions by about 100. We believe this is the more significant figure (see the data in Table 1, Section B).

"Institutions have been starved for money." Actually, expenditures on instructional costs per student in constant dollars remained steady.

"Rising tuition has really hurt the middle class." Actually, privately paid tuition has not risen as fast as disposable family income.

"The federal government has been carrying an increasing share of the burden of financing institutions of higher education." Actually, the federal share for educational and general purposes (which excludes auxiliary enterprises like residence halls, service activi-

Table 1. Selected data on higher education in the 1970s, United States

A. All Institutions

National Center for Education Statistics (NCES) Universe

	1970	Latest year	Percentage change
Total enrollment (FTE)	6,738,000	8,372,000 (1978-79)	24.3%
Enrollment in private institutions (FTE)	1,785,000	2,069,000 (1978-79)	15.9
Total number of institutions	2,817	3,125 (1978-79)	10.9
Number of private institutions	1,504	1,660 (1978-79)	10.4
Ratio of expenditures per student on instruction in private colleges versus public	1.34	1.34 (1976-77)	0
Real expenditures per student on instruction (Average for the 1960s = \$2,500)	\$3,070 (1969-70)	\$3,166 (1976-77)	1.5
Privately paid tuition as a percentage of per capita disposable income			
Public institutions	10.5%	9.6% (1976-77)	-8.6
Private institutions	50.3%	44.5% (1976-77)	-11.5
Federal share of institutional expenditures for educational and general purposes	22.5% (1969-70)	16.4% (1976-77)	-21.7
State share of institutional expenditures for educational and general purposes	36.6% (1969-70)	41.6% (1976-77)	13.7

(continued on next page)

Table 1 (continued)

B. Selected Categories of Institutions^a
Carnegie Universe

	<i>All institutions</i>		<i>Public</i>		<i>Private</i>	
	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>	<i>Number</i>	<i>Percentage</i>
FTE enrollment changes						
Gainers	1,256	59%	771	68%	485	48%
Losers	630	29	236	21	394	39
Stable	259	12	129	11	130	13
Total	2,145	100	1,136	100	1,009	100
Institutional changes						
Openings	111		80		31	
Closures, mergers, and shifts in control	186		56		130	

^aSpecialized institutions are excluded. They include professional schools such as theological schools, medical schools, schools of engineering and technology, business, law, and other specialized institutions at the four-year level. Also excluded are institutions already in existence (but not counted, in accordance with NCES practice) in 1970 that gained accreditation in the 1970s. These are, however, reflected in the number of institutions in 1978-79 shown in Section A of this table. Enrollment changes could be analyzed only for these 2,145 institutions which reported enrollment in 1970 and 1978; 249 institutions which closed, merged, or otherwise did not report for both years are not included.

Sources: Section A: U.S. National Center for Education Statistics (NCES) (1970; 1971; 1973; 1978a; 1979b). Section B: NCES (1971; 1979d).

ties, and construction) went down from 23 to 16 percent (mostly because research support declined comparatively). The federal share of direct student aid, however, increased.

"The states have not done their share." Actually, the states' share rose from 37 to 42 percent of expenditures for educational and general purposes.

The 1970s, despite the "New Depression" (Cheit, 1971) period of recession early in the decade and the OPEC crisis in the middle, and contrary to the impression left by the many complaints and some cries of anguish, was a good decade for higher education. It was possibly the best decade in all of history, in terms of institutional progress, except for the 1960s. Higher education ended the 1970s generally in good shape. For example, college presidents (Carnegie Council Surveys, 1978), reported improvement in the quality of the faculty, among other on-campus improvements. Reports about a few losses in selected areas have obscured this basic fact: Higher education concluded the decade in better condition, by and large, than it entered it.

The 1970s were a decade, both for the nation and for higher education, when bad news was more likely to be featured than good news. An impression, both inside and outside higher education, of its threatened condition was created by:

Student unrest at the beginning of the decade that shattered confidence on campus and support in the community

The decline of male participation rates with the end of the military draft

The first impact on the labor market of the new outpouring of college graduates, coincident with recurring recessions

The deep recession and dramatic rise in oil prices in 1974-75 that sent many colleges into financial deficits.

These shocks were widely reported and deeply felt. What was not so evident was the underlying growth in enrollments and the sustained financial assistance, particularly by the states. The quiet, almost unnoticed favorable developments, by the end of the decade, had more than balanced the shocks along the way.

We note misconceptions about the 1970s for two reasons. One, they demonstrate a negative tendency of some academics when they comment on the situation of higher education—a tendency to see only the worst aspects. Their views need to be discounted.³ Two, a presentation of the actualities shows that higher education enters the 1980s from a relatively high level of performance—not from a badly

³See Kerr (1975). The titles of a number of recent books are cited, including *Academics in Retreat*, *Death of the American University*, and *Fall of the American University*.

weakened situation; and is generally in a position of substantial strength as it faces the future.

To get more accurate images of the future we need more accurate perceptions of the recent past.

Important Contemporary Trends

So much has been happening to higher education in recent times that it is difficult to select a short list of the most important developments. However, we do advance the following (and incomplete) list:

1. *Rise of the public sector.* Not so long ago, in 1950, higher education was half public and half private as measured by enrollments. Nationally, it is now four-fifths public and one-fifth private, with great state-to-state variations. The question must now be raised, for the first time in our national history, as to whether or not the private sector might become too small in relative terms to act as an adequate check and balance to the public sector, to act as an effective model for the public sector, and to serve as an adequate competitive spur to it. Table 2 shows the trends overall and by major institutional category. The public community colleges have been the great gainers over the past two decades in terms of enrollments. While the private sector has lost proportionately, it has, however, gained absolutely.
2. *Transition from free sector to regulated industry.* Higher education, including the so-called public institutions, was once largely a self-governing, autonomous part of American society. Increasingly, including the private institutions but to a lesser extent, it has become subject to many forms of regulation and is taking on the status of a regulated industry. Even its internal records on students and faculty are now subject to controls. Less policy is set by faculties and by boards of trustees and more by state governments, and by federal law and agencies. The courts are also more and more being drawn into what were once the internal affairs of higher education; and when drawn in are intruding more deeply into these affairs. This increase in public regulation and influence is blurring the distinctions between the public and private sectors, particularly at the federal level. It might be more accurate to say that we have a public and quasi-public sector.
3. *Changing sources of financial support—more public money.* Two long-term changes (since 1930) have taken place in the source of

Table 2. Enrollment shares among sectors of higher education

	Share of total headcount enrollment (in percentages)			
	1950	1960	1970	1976
Total, all institutions				
Public	50.0	59.1	74.8	78.4
Private	50.0	40.9	25.2	21.6
By category				
Research Universities and Doctorate-granting Universities:				
Public			23.7	21.4
Private			7.8	6.0
Liberal Arts Colleges:				
Public			0.5	0.2
Private			7.6	4.6
Comprehensive Universities and Colleges:				
Public			23.3	21.3
Private			6.1	7.1
Two-Year Colleges:				
Public		13.9	26.0	34.2
Private		2.4	1.6	1.4
Other Categories:				
Public			1.3	1.3
Private			2.1	2.5
Total Headcount Enrollment (in thousands)				
	1950 ^a	1960 ^a	1970	1976
All institutions	2,281.3	3,582.7	8,580.9	11,012.1
Public	1,139.7	2,115.9	6,428.1	8,653.5
Private	1,141.6	1,466.8	2,152.8	2,358.7

^a Degree-credit enrollment only.

Sources: U.S. NCES (1979a); and Carnegie Council.

funds for institutions of higher education: a major redistribution from private to public funds; and the rise of the federal government as a major contributor of public funds. More recently (the past decade),

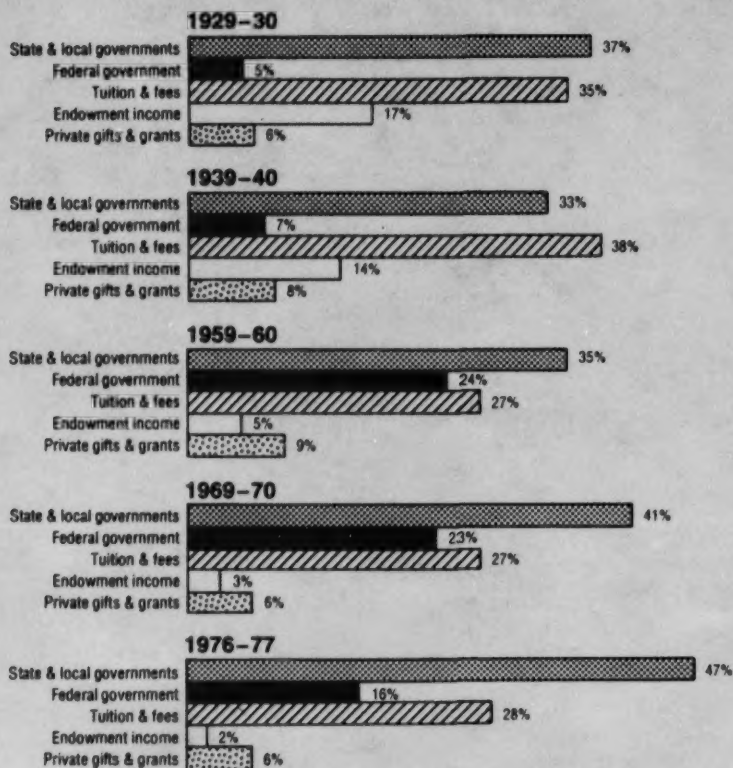
however, private funds have gone down only moderately on a comparative basis. Among private funds, the biggest change since 1930 has been the collapse of endowment as a source of income. The big recent change has been the decline, on a percentage basis, of federal funds as less money comparatively has been spent on research. Figure 1 shows these changes since 1930.⁴

The sources of institutional funds shown in Figure 1, however, do not reveal total federal expenditures on higher education, because major portions of federal student aid—especially under the Basic Grants, veterans' educational benefits, and social security benefits programs—do not flow to institutions but are allocated directly to students, who may use the funds in large part for subsistence (often entirely outside of institutional facilities). Moreover, a portion of tuition payments included in Figure 1 is actually met through student aid income of institutions. Figure 2 indicates changes in the sources of total monetary outlays for higher education, including total student aid expenditures of federal and state governments. (Private student aid is included under philanthropy.) Students and families are now meeting a considerably smaller proportion of total expenditures than in 1929-30, partly because of the growth of public student aid and partly because of the relative growth of enrollment in public institutions with their lower tuition charges. The share of state and local governments (primarily state) has risen in recent decades, as has the share of the federal government, if we include all federal student aid expenditures (which have increased enormously).

We see two trends now in prospect. One is a stabilization of federal support. We foresee no further decline of support to institutions as compared to state support since we believe and recommend that research support will and should be increased by the federal government. We also believe that student aid support will roughly level off. And we see no totally new federal program coming along. The other is somewhat heavier reliance on private support, reversing the historical trend, as resistance to taxation rises and other priorities attract public attention, and as some elements in the population may question the comparatively larger subsidies that go to those young

⁴See also Supplement A, *Sources of Funds for Higher Education*. The supplements will appear only in the forthcoming editions of the extended final report of the Carnegie Council on Policy Studies in Higher Education.

Figure 1. Changes in sources of income of institutions of higher education for educational and general purposes,^a 1929-30 to 1976-77



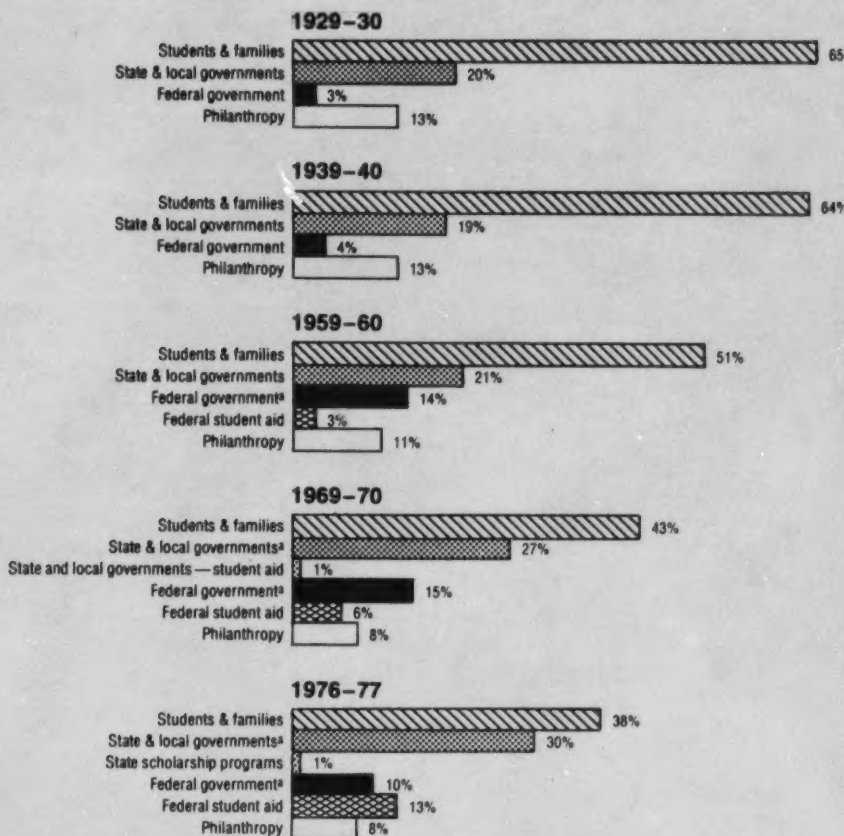
^aIncludes current income received for educational and general purposes, including research; does not include such items as sales and services of educational activities, sales and services of auxiliary enterprises, and sales and services of hospitals, and construction. Tuition represents gross tuition and includes, especially since 1969-70, some tuition expenses met from student aid.

Source: Supplement A, Table A-1.

persons attending college.⁵ Financial support from the states we see as the most dependable component in the future as in the past.

⁵See preliminary study by Congressional Budget Office (U.S. Congress, 1979). College students receive about four times the federal subsidy of "all youth," including college students with their high subsidies.

Figure 2. Changes in sources of monetary outlays for higher education, including support of students, 1929-30 to 1976-77



^aNot including student aid.

Source: Supplement A.

4. *Increasing role of large institutions.* The large institution has come to dominate enrollments in higher education. Primarily, this has been the result of student choice and not of intentional public policy. But the choice has been affected by the fact that most large institutions are public, with tuition substantially below levels in private institutions; by the improved academic quality of many public institutions, and by their concentration on attractive occupational subjects; by the shift from student bodies drawn heavily from upper-income groups oriented toward private and small-scale higher education to mass attendance; by the shift of population to the South and West where large public institutions have long been elite institutions that are often the first choice of the academically able and financially well-to-do. But the shift to larger institutions (but not to the largest) has occurred in the private sector also. It is the small institution that has become endangered. Despite all the rhetoric to the contrary, larger size has become predominantly the more preferred by students. What was once called the "curse of bigness" has now become the "curse of smallness." (See Figure 3 for recent trends.) Campuses with more than 10,000 students accounted for one-quarter of all enrollments in 1955 and one-half in 1977; campuses with fewer than 500 students accounted for 8 percent in 1955 and 1.5 percent in 1977.

Correlated with the growing size of institutions are some other developments. More and more institutions are comprehensive, in the sense that they offer several or even many professional and technical programs and not just teachers' education or just liberal arts. A substantial number of less selective liberal arts colleges have shifted to the comprehensive colleges category; fewer are either specialized (teacher education) or general (liberal) in their approach. Fewer institutions also have an exclusively collegiate atmosphere partly because of larger size, partly because of more part-time employment by students, and partly because more students live off campus.⁶

⁶The number living on campus has dropped from about 60 percent of all students in 1960 to about 20 percent in 1979.

Figure 3. Institutions of higher education by control and size of (headcount) enrollment, percentage distribution, 1955 and 1977

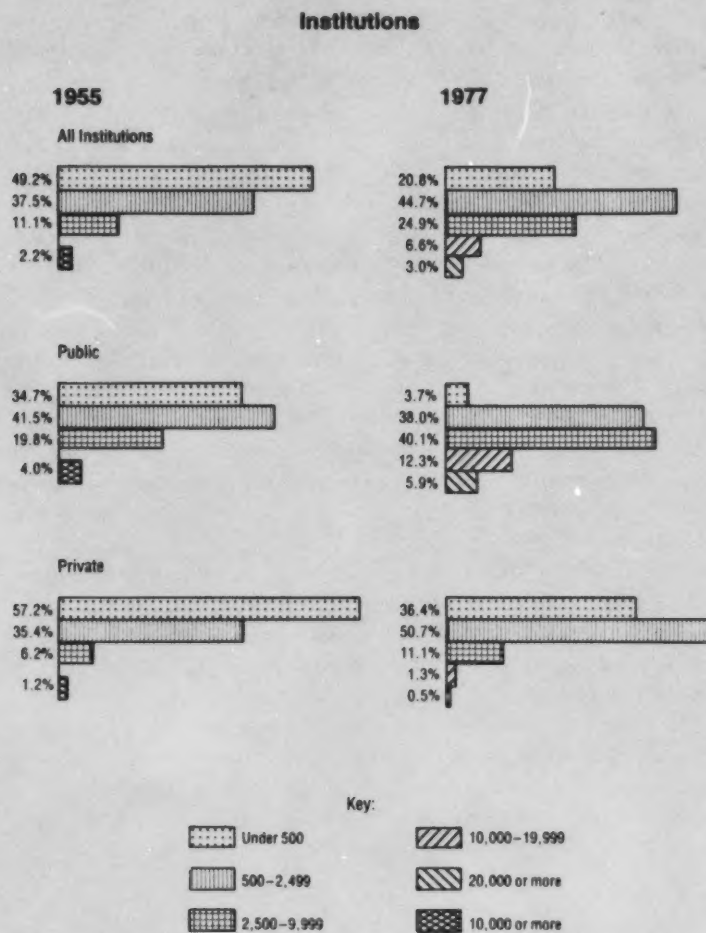
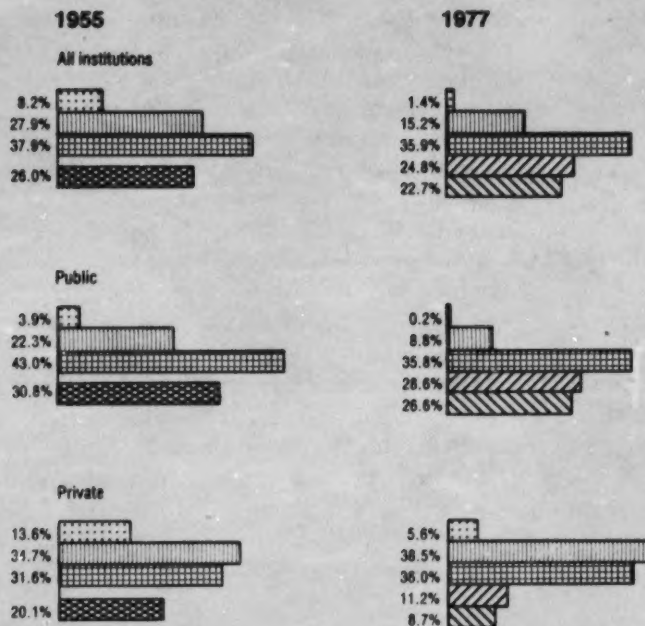


Figure 3 (continued)

Size of Enrollment



Sources: U.S. Department of Health, Education, and Welfare (1958, p. 54); and U.S. NCES (1979a, p. 107).

The very small college has declined in comparative importance. So also have the single-sex, the rural, and the religious colleges. They all represent an earlier America of local attendance patterns, of greater regional variation in attitudes and style, of more parental choice of college. The market is now more cosmopolitan, the dominant culture more uniformly spread, the choices made more by students themselves. And student choices have been increasingly for the comprehensive institution of large size—the choice Americans as a whole also have made in locating increasingly in comprehensive cities. The diversity of American higher education used to be found between and among institutions with conformity within them; now it is more often found within institutions, with the institutions in their entirety being more alike. Fewer institutions have their own strong individual personalities. Yet there are some new diverse institutions for Native Americans and Hispanics; the black colleges and the fundamentalist Protestant colleges are holding their own; and new types like Empire State in New York and Metropolitan State in Minnesota and the University Without Walls at several locations have come along. Additionally, the new Third Sector⁷ brings in other forms of variation as noninstructional institutions take on instructional activities. But, overall, proportionately more students are in the same types of environments than ever before.

Not only the students, by their choice of campus, but also faculties press for conformity with the standard pattern. Many an academic reform of the 1960s and early 1970s foundered on the constant pressure of faculty members to conform toward the standard

⁷We identify the Third Sector as institutions that give postsecondary instruction as an adjunct to noninstructional activities: instruction by a corporation, a research agency, a museum, a trade union, the armed forces. The First Sector is made up of nonprofit colleges; the Second of profit-making institutions. The boundaries of the First Sector have become more imprecise as nontraditional programs are added, and the growth of the Second Sector and the addition of the Third Sector mean that the edges of the total universe of postsecondary education are softer than ever before; the definitions of it are more blurred. These developments make it harder to estimate both the totality of First Sector enrollments and their distribution among institutions since some institutions are much more affected by these changes than others. The Second Sector and the Third Sector are nibbling away at the enrollments of the First Sector, as well as tapping new markets.

model. The alumni are the great force for preservation of elements of historical diversity where they exist, and their financial support is almost directly related to the traditional distinctiveness of the institution.⁸

Along with concentration of enrollments in larger institutions has gone the growth of systems.⁹ For example, in 1978, only 21 of the 141 member institutions in the National Association of State Universities and Land-Grant Colleges were still governed by their own individual boards. This has many implications for the concentration of decisions in the process of governance.

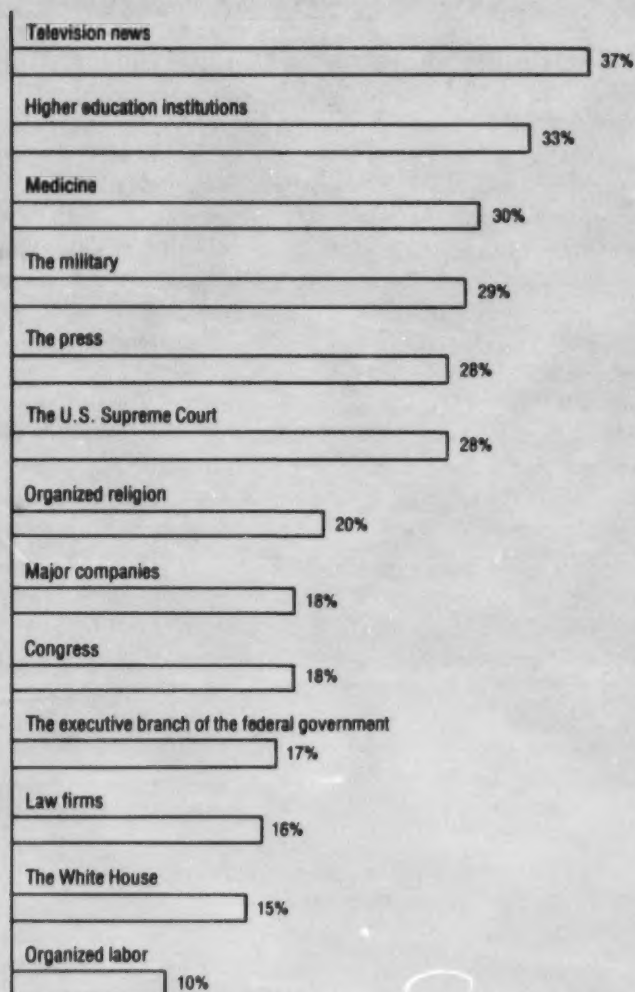
5. *Changing public confidence.* Public confidence in higher education historically has been very high. It fell drastically around 1970 but, compared with that of other institutions, has recovered. It is still low, as is true also for all other American institutions, as compared with earlier periods. It now rates, however, at the highest level among American institutions, along with TV news broadcasts (Figure 4). This relative ranking is an enormous asset. We see a major threat to it, however, as we shall note below, in a declining reputation for integrity of conduct. Public confidence is basic to public financial support, and currently it constitutes a comparatively strong base.

6. *Changing rates of growth.* Higher education has been subject to substantial shifts in rates of enrollment increases over the past 20 years. On the way up, the problems were those of obtaining new physical facilities, and of recruiting added faculty members to the existing system with a resultant explosion in the capacity to train them. In the leveling-off phase, a major problem has been an overcapacity to train new faculty members. The number of additional faculty members required fluctuates more than total enrollments, although institutions do smooth out their demands over a period of several years. A small increase or decrease in the rate of change of enrollments, however, usually means a bigger increase or decrease percentagewise in new faculty hires.

⁸For a discussion of changing patterns of diversity and other transformations in the 1960s, see Hodgkinson (1971); for transformations in the 1970s, see Stadtman (forthcoming).

⁹See the discussions in Lee and Bowen (1971; 1975).

Figure 4. Percentage expressing high confidence in selected major American institutions (February 1979)



Source: Reprinted from the ABC News-Harris Survey by permission of the Chicago Tribune-New York News Syndicate, Inc.

We note in passing that a common academic attitude when facing expansion was "bigger is worse"; now it is "smaller is disastrous." Bigger, by and large, turned out not to be worse, and somewhat smaller may not turn out to be so disastrous. Certainly, however, changing rates and directions of growth are worrisome.

Federal research funds have also been made available in changing amounts. A large decrease, in real terms, occurred in the late 1960s and continued into the 1970s, but this has been reversed in recent years.

Changing rates of growth in enrollments, faculty acquisition rates, and federal research funds have been upsetting factors for higher education.

7. *The older faculty.* The percentage of older faculty members with tenure keeps rising as the rate of new hires goes down. The last heavy period of faculty hiring was from 1960 to 1970; the next will be from 2000 to 2010. The modal age of tenured faculty members in four-year institutions in 1980 will be 36 to 45; in 2000, 56 to 65 (Figure 5). In the latter year, there will be far more faculty members 66 and over than there are faculty members 35 and younger. An older faculty is a higher paid faculty—adding to costs; less resilient in adjusting to new fields that come along; farther removed from the age of the students. On the other hand, more faculty members will be of the home guard type, tied by years of service to the welfare of their own institutions; fewer will be transients who are eager to be on their way somewhere else. This will add to stability in governance and attention to campus welfare. It may also add, however, to the number of time servers on campus.

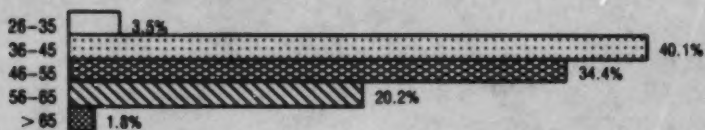
8. *The institutional stance: from offense to defense.* The tone of the Golden Age of the 1960s was one of euphoria, of expansion, of new endeavors, of overall "telic" and purposeful reform,¹⁰ of additional piecemeal experimentation, of a frantic chase after excellence. The new tone of the advancing demographic depression is now more one of concern and even despair, of concentration on contraction, of avoidance or abandonment of telic reforms, of a single-minded emphasis upon survival. Signs of the new emphasis on survival are legion, including:

¹⁰See the discussion in Grant and Riesman (1978).

Figure 5. Age distribution of tenured faculty in four-year colleges and universities, 1980, 1990, and 2000

AGE
GROUP

1980



1990



2000



Source: Carnegie Council estimates.

- The lowering of admissions requirements
- The search for nontraditional students, who in the past have been the least preferred
- The increased emphasis on retention of students, sometimes regardless of their performance
- The rising level of grades to attract and retain students in courses and departments
- The turn toward vocational and professional subjects following student demand
- The introduction of new fields and courses that are highly popular with students
- The faculty interest in collective bargaining to protect tenure and real income, and, sometimes, to resist the impacts of affirmative action
- The effort to find top leadership which is good at cost accounting or at recruitment of students or at fund raising or at all three; to find managers for survival who will balance the books, recruit the students, and raise the funds instead of innovators and planners for a different and hopefully better future.

The impacts on institutional behavior are manifold:

- It is more difficult to start anything new with a nonmarket orientation, or to preserve the telic reforms of the 1960s
 - Supporting personnel—recruiters, admission officers, student financial aid officers, student counselors, for example—are becoming more important
 - Top leadership is more cautious, less visible
 - Consultation within the campus is more total, the search for consensus more insistent, the avoidance of controversy and of alienation of any important constituency more avidly sought, the status quo more enshrined
 - Internal tensions, nevertheless, are exacerbated; departments compete to survive; and coalitions form over where the cuts should or should not be made.
- The ambience was once one of overall excitement; now it is more one of tenacity, of holding on within each little academic fortress.

The increasing intrusion of public policy and public regulation adds to the defensive attitudes.

9. *The new students.*¹¹ The students of today enter on the average with lower levels of developed aptitude.¹² Test scores on entrance have declined (1963-1979) as follows:

Verbal	11 percent
Quantitative	7 percent

Students have changed in other ways:

They are concentrating more on professional and vocational subjects.¹³

They are less active politically. Large-scale political activism died in the summer of 1970 and has never been successfully resurrected. The "far left" has declined by over one-half (1969 to 1978) from 4.5 percent of freshman students to 1.8, and the "middle-of-the-road" group increased by nearly one-half from 42 to 58 percent (Creager and others, 1969; Astin and others, 1978).

Political activity, to the extent it exists, is oriented more toward specific issues than toward overall social reform, and it follows accepted methods of persuasion.

They are less interested in academic reforms. Their efforts at impacts on campus are more of a trade union variety: no increase in tuition, better counseling, and so forth.

They are overwhelmingly choosing large institutions in metropolitan settings.

They are less respectful of rules and regulations—there is more

¹¹For a detailed discussion of the new generation of students, see Levine, forthcoming.

¹²The average score on the verbal portion of the Scholastic Aptitude Test (SAT) dropped from 478 in 1963 to 427 in 1979; the average mathematical score declined from 502 to 467 (*Higher Education Daily*, 1979, p. 1).

Scores of college graduates on entrance examinations for graduate school (Graduate Record Examination, Graduate Management Admissions Test) have dropped about 5 percent; although Medical College Admission Test scores have risen slightly (data from Educational Testing Service, Princeton, N. J.; and Golladay (1977).

Early in the 1970s, Cross (1971, p. xiii) recognized that "... the distinguishing characteristic of the young people seeking postsecondary education in the 1970s is their low level of academic achievement on traditional measures in traditional curricula."

¹³See The Carnegie Foundation for the Advancement of Teaching (1977, p. 103). Professional and vocational majors among undergraduates rose from 40 to 60 percent between 1969 and 1975.

cheating, more vandalism, more defaulting on student loans.¹⁴ They are, if anything, less hopeful about the world.

They are, on the other hand, if anything, more confident about their own individual futures.

10. *The supremacy of the market.* The orientation of higher education has changed substantially over the past nearly three and one-half centuries. At first, it was toward preparation for the ministry, for teaching, and for community leadership in a frontier nation, with curricular emphasis on the Bible and the classics. Later it added preparation for the other ancient professions, specifically law and medicine. Then, after the American Civil War, attention was turned toward agricultural and industrial production, toward science, engineering, and later business administration. Increasingly in the past two decades, training has been added for policemen, firemen, nurses, and several of the skilled manual trades, among other additional occupations. More recently the mass student market has become more important, particularly for the community colleges, but most colleges have placed additional emphasis upon it. Under the conditions of the next two decades, consumer sovereignty may well prevail largely undisputed in most institutions.

Consumer sovereignty is not the only way to set the agenda for higher education, and consumer sovereignty itself will express quite different tastes in an elite as compared with a mass system of higher education. In addition to consumer sovereignty, there are two other major ways of setting the agenda. One is by the academic guild of the professors, as historically has been the situation in England and in the United States—particularly in the Ivy League and the most selective of the liberal arts colleges. The other is by external authority, which can be quite varied. It may be the state, as in Russia with concern for technology and ideology, or as in France with emphasis upon the civil service and French culture, or as to some extent in the United States with the emphasis of the federal government on encouraging science. It may be the church, as in many early American institutions and some even today. It may be a class, in a class-dominated society, as in England in centuries past

¹⁴See Carnegie Council on Policy Studies in Higher Education (1979a).

and much of Latin America in more recent times. It may be industry dominating schools of technology or business administration.

So there are alternatives; and there are changing mixtures as there have been in the United States; and the interests of student consumers, faculty producers, and public controllers are partially in harmony as well as partially antithetical. The clear trend, however, perhaps more than ever before, in the 1960s and 1970s, has been toward the student market. The enduring reforms have been the "popular" reforms that follow shifting student interests (Grant and Riesman, 1978, chap. 6). Academic guild interests have been best protected by private endowments, alumni support, and federal research funds; and public interests by earmarked funds such as those for agriculture or health care or mineral technology. But most public funds follow the student market through formulas based on enrollment and through direct aid to students, and so do most private funds in the form of tuition.

We have a largely enrollment-driven system. Such a system works better in a period of expansion than of contraction; and we now face a time of contraction. In a period of expansion, among other things, money can be more easily siphoned off to support academic guild interests. Declining costs per additional student help this with state financing based upon higher average costs, with a resultant gain for the institution in between. In contraction, costs climb back up the steeper marginal cost curve, as fixed overhead is spread over fewer students, and put on pressure to cut into nonessentials—nonessentials in attracting and holding students.

The road to survival now leads through the market place. A new "academic revolution" is upon us.¹⁵ In the 1960s, the revolution consisted of many institutions trying to become research universities and mostly failing (Jencks and Riesman, 1968). In the 1980s and 1990s, it will take more the form of following the long-time example of the community colleges in adjusting to the market, and often succeeding. Excellence was the theme. Now it is survival. Institutions were trading up; now they are trading down.

¹⁵See the discussion in the forthcoming volume by Riesman.

Summary

Thus, we enter the 1980s with a system of higher education characterized by:

- Increasing concentration of students in public institutions
- More and more regulation by governmental agencies of both public and private institutions
- More and more dependence on public sources of financial support
- Heavy concentration of students on large campuses of traditional form
- Substantial public confidence in higher education on a comparative basis
- Slowing and uncertain rates of enrollment growth
- An aging faculty
- More and more defensive reactions internally
- A new generation of students
- More and more pressure to serve the student market.

These factors place the old and the new, the static and the dynamic in dramatic conflict. Most of these factors support the old and the static more than the new and the dynamic. But there are contradictions and inherent conflicts in the developing situation. The more dynamic factors are (1) the added emphasis on the student market, which (2) consists of a new generation of students. Higher education, to the extent it changes, will be changing mostly in response to these new students making their choices. A short time ago, higher education was particularly following decisions made in Washington. And, on balance, the circumstances of that day supported more the new and the dynamic. The scientist and the academic institution builder were in the forefront of the procession; today it is the uncommitted students casing their alternative opportunities. It has been a long time since voting in faculty meetings fundamentally set the new course for most institutions of higher education. This form of leadership is by now more a cherished illusion than a reality. The quiet student now leads the way.

Some of the drama of the next two decades will center around the natural and strong efforts of many within the academic community, and particularly among faculty members, to hold on to what they cherish most from the past, and the necessity, felt more strongly by administrators and trustees, to adapt to the new realities of the student market.

3

A Judgment About Prospective Enrollments

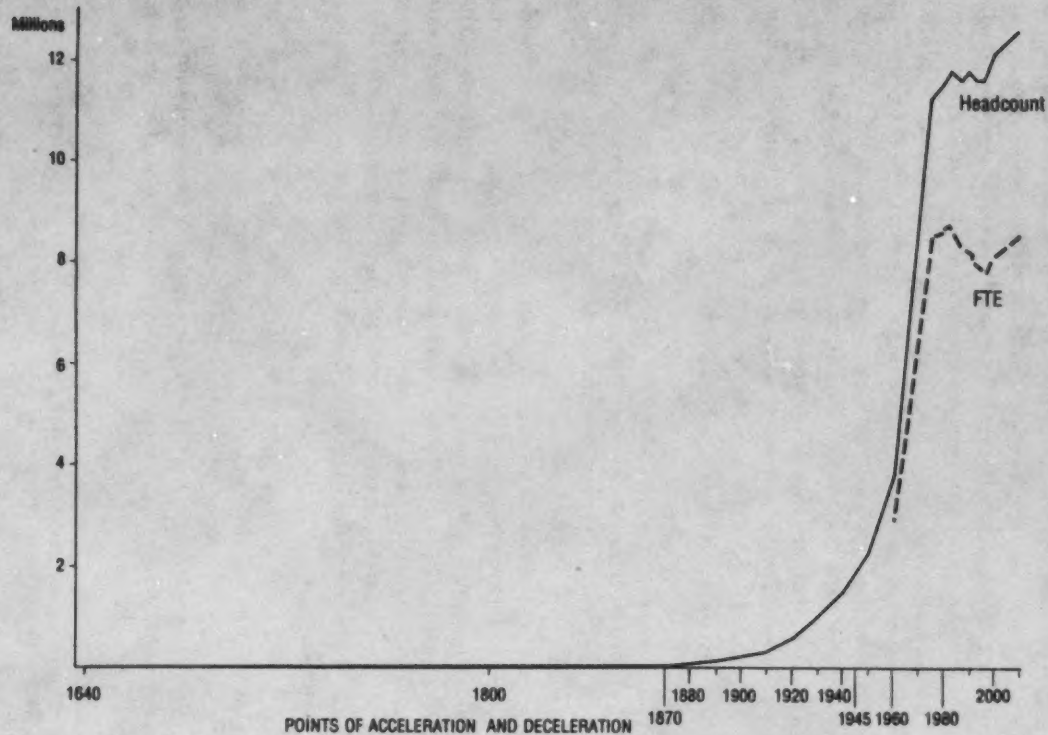
The most dramatic feature of the next 20 years, as far as we now know, is the prospect of declining enrollments after more than three centuries of fairly steady increase (see Figure 6). Points of enrollment acceleration in history have been 1870 with the increase of growth after the Civil War and following the introduction of the land-grant college movement; 1945 with the G.I. Bill of Rights; and 1960 with the "tidal wave" of students following the high birthrates after World War II. Now there is a deceleration point, with an abrupt and substantial demographic decline in the numbers of young persons. Two points of change, with movements in opposite directions, will have occurred within one 20-year period. This has never happened before in American history.

How sharp this deceleration will be has great impacts on how the future is viewed and on what preparations are needed for it.

Were there to be an overall increase in enrollments of 25 percent, as one projection has suggested, almost no institution would be in trouble between 1980-2000 except for problems arising from inflation (A on Figure 7).

Were there to be an overall decrease in enrollments of 25 percent, a large proportion of institutions would be in trouble.

Figure 6. Generalized View of Enrollments in Higher Education, 1640 to 2010



Sources: Carnegie Council estimates based on U.S. Bureau of the Census (1975) and U.S. National Center for Education Statistics, *Fall Enrollment*, appropriate years.

Were there to be an overall decrease of 40 percent, as several predictions foresee, or over 50 percent as one model indicates, then all or nearly all institutions will be in trouble (D on Figure 7).

The first of these projections is based on the assumption that long-term trends for increasing participation rates by youth will reassert themselves, with the 1970s set aside as a special period that is not consistent with more permanent and more favorable tendencies, and that there will be a substantial increase in attendance by adults. The second of these predictions builds on the decline of 25.6 percent in the size of the traditional college-attending age cohort (18-21 years of age) from 1978 to 1997. In the third, the decline in the size of the age cohort is compounded by the impact of a deterioration in the private rate of return in the labor market on investments in higher education. A decrease of about one-third in this rate of return did occur from the mid-sixties to the mid-seventies. Thus, there will be both fewer young persons and a smaller proportion of them will find it advantageous to go to college, in this view.

We see a fourth possibility (B in Figure 7) of a decline within a range of 5 to 15 percent for undergraduate enrollments. We shall explain this estimate below.

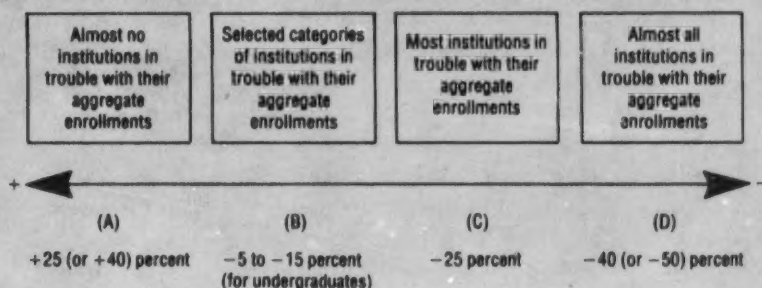
The "A" view implies a continuation of current activities with a sense of assurance; "D" suggests preparations for drastic cutbacks and phase-outs.¹ "A" means that institutions can largely rely upon their own actions; "D" that governments may need to step into detailed planning and direct intervention as never before. Our view, "B," emphasizes selective impacts within and among institutions and selective remedial actions by both individual institutions and by governments.

A caveat: In setting forth our own enrollment projections for the future we do not wish to help create any "delusions of certainty"² or to suggest that we have any illusions of certainty. We only wish to suggest the variable weather view of the future that we hold as against alternative views that range from disaster

¹This is the "dark ages" scenario of Froomkin (1978, p. 31): "The 1980s may well become the Dark Ages of higher education."

²See Boulding (1979).

Figure 7. Potential basic directions of enrollment trends



Source: Carnegie Council estimates.

warnings to all-clear signs; to advance the idea that some constructive actions are needed as against contrary advice that either extreme measures are imperative or that business may proceed as usual. Decisions are already being made and actions taken based on views of the future. To help guide these decisions and actions, we set forth our own views. Errors can be made by either expecting too little or too much by way of prospective enrollments, and by either doing too much or too little. We advocate a course of action based on long-run confidence in the future of higher education, moderated by short-term concerns; a course of adherence to continuing basic purposes³ while adjusting flexibly to temporary changes in circumstances. It is not a time for either panic or euphoria.

Hazards in Enrollment Predictions

Enrollments in higher education are subject to many changing forces. Gone is the day when the size of the freshman class of the fall

³The Carnegie Commission (1973a) set forth these purposes, and the Council endorses this listing, as follows: (1) the education of the individual student and the provision of a constructive environment for developmental growth; (2) advancing human capability in society at large; (3) educational justice for the postsecondary age group; (4) pure learning—supporting intellectual and artistic creativity; and (5) evaluation of society for self-renewal through individual thought and persuasion.

could be predicted nationwide with great precision based on the number of graduating high school seniors of the June just passed.⁴ It is no longer enough to look just at the size of the age cohort, or at changing high school graduation rates, or at private rates of return in the labor market on investments in a college education, or at long-term historical trends, helpful as each of these is.

We set forth in this section a variety of factors we have considered in making our projections. This presentation may serve two purposes: One is to allow others making overall projections to match their detailed judgments against ours; and the other is to serve as a checklist of possibilities to be considered in individual situations, which may be of use to state planning agencies and to planners in individual systems and institutions of higher education.

In advance, however, we should note how precarious it has become to make predictions. Some of the factors that make predictions more difficult are the following:

- The new phenomenon of stop-outs and stop-ins
- Reduced dependence of young people on parental wishes and financial support
- Higher proportions of adults attending college
- Higher proportions of part-time students
- Higher percentage of students in two-year colleges who have more marginal commitments to attendance shifting with circumstances
- Higher proportions of students at graduate levels, particularly the M.A. level, tied to immediate job prospects which fluctuate
- Changing inducements to attend college in the form of veterans' benefits, student subsidies, and opportunities in the labor market
- Changing private rates of return on a college education
- Changing military recruitment policies
- The historic shift from assured class to less certain mass attendance
- The rise and fall of geographic areas

⁴The rule was that 50 percent of white males and 40 percent of white females who graduated from high school entered college the next fall and this, along with rather steady but lower percentages for nonwhites, essentially determined the size of the freshman class (Jaffe and Adams, 1964-65).

The addition of quality-of-life objectives of a recreational and social nature to professional and vocational objectives
More nontraditional institutions catering to specialized markets.

Only about 40 percent of all students are hard-core participants, defined as second-generation attendees within their family histories who are enrolled in four-year colleges.

This is the group most likely to attend on an assured basis. The other 60 percent of enrollees are in the softer fringe comprised of first-generation attendees, second-generation attendees in two-year colleges, and M.A. level vocational students. The high percentage of soft-core students makes it necessary to expect wide fluctuations in enrollments, and particularly in those institutions and subject matters that many of these students prefer.

Undergraduate Enrollments⁵

1. We start with the prospective decline of the 18-24-year age group by 23.3 percent by 1997.
2. We adjust the impact of this decline by 20 percent, because about 20 percent of undergraduate enrollments (FTE) are by students over the age of 24. The resultant impact is to reduce the prospective decline to 19 percent.
3. We offset this by the prospective increase in enrollments of persons 25 and over. Their enrollments have been increasing over the past decade. They are likely to increase considerably more because there will be bulges in the size of the older age groups, and because more of these older persons already have attended college and such persons have a much higher historic participation rate in additional college attendance than the population as a whole. This offset amounts to about 9 percent. We note that participation rates for adults with prior college attendance may rise to even higher levels than past practice might indicate (this applies to the graduate level as well) because of the great competition of many to get ahead within the bulge of young adults, because of the desire of some to change jobs in the face of this competition, and because of the impulse of a few to escape the competition by attention to nonvocational interests.

⁵See Supplement B, *Carnegie Enrollment Projections*, for more detail on potential undergraduate and graduate enrollments.

The resultant figure is a prospective decline of 10 percent (A in Table 3).

4. Next we look at males 18-24. They constitute about 40 percent of all current enrollments. Their participation rates have gone down in the 1970s with the end of the Vietnam war and the more recent decline in the number of veterans in college. We expect current participation rates to stabilize. We are not certain of this but do believe that any further decline will not exceed an impact of more than -5 percent on total enrollments. Added to the figure just given above, this would result in -15 percent, the low end of our range (B in Table 3).

We are hesitant about enrollment rates for 18-24 males for several reasons:

- They might stabilize at present levels. Present levels of participation for 18-21 year olds are at about the 1964 level before all of the impacts of the Vietnam war on the draft and avoidance of the draft, and on veterans' benefits. They are slightly higher than 1964 for the 22-24-year age group. The 1964 level and levels since 1973 seem like a reasonable base for estimations about the future (see Figure 8). Some forecasters may have been misled by looking too exclusively at the 1969 to 1973 trends or, alternatively, at 1964 to 1969 trends—the former leading to visions of continuing declines, the latter to visions of resumption of increases (see Figure 9). (Note that both of these figures include graduate enrollments. This inclusion does not affect the 18-21 age group, but has some impact on the 22-24 age group. It is not possible to separate undergraduate and graduate enrollments by age prior to 1970. Figure 9 does separate these enrollments beginning with 1970.)
- They might go down. Attendance by veterans has already fallen by one-half and will fall some more. The military will be taking a higher proportion of eligible males from the smaller age cohort, although this may be offset, after a lag, as a result of educational benefits for those who have served in the armed forces. The labor market for young persons will be comparatively good for the smaller age cohort and may draw marginal attenders out of college. High school graduation rates have been going down slightly.

Table 3. Potential decline in full-time equivalent undergraduate enrollment, 1978 to 1997, with contribution from each factor in projection model.

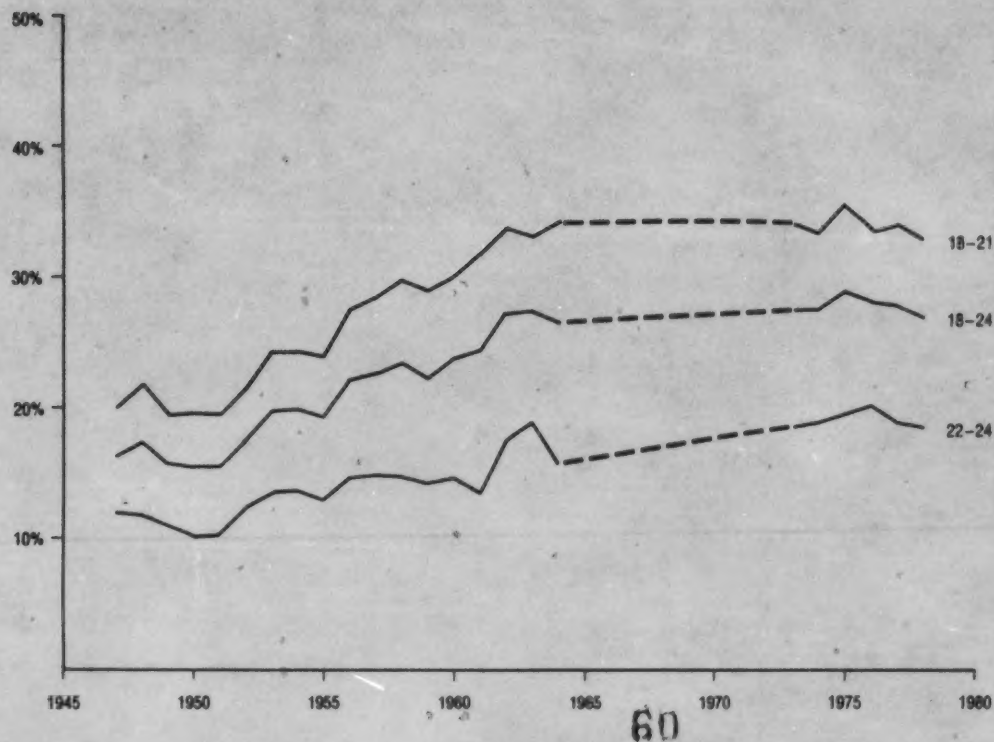
	Percentage	Reference in text
Decline in 18-24 age cohort	-23.3	
Adjusted for the 80 percent that this age cohort constitutes of all enrollments	-19	
Adjusted for increase in population 25 and over at constant participation rates (+4 percent)	-15	
Adjusted for increase in percentage of population 25 and over with college experience and resultant higher participation rates (+5 percent)	-10	(A)
Adjusted for potential further decrease in participation rates by males 18-24 (-5 percent)	-15	(B)
Adjusted for changes in other components:		
More blacks and more participation by blacks (+2 percent)		
More participation by majority women 18-24 (+4 percent)		
Increased retention (+4 percent)		
Impact of increasing proportion of part-time enrollment (-5 percent)		
Net: +5 percent		
Applied to (A)	-5	(C)
Applied to (B)	-10	(D)

Source: Carnegie Council estimates.

- They might rise. The private rate of return on a college education has gone down substantially since the high levels of the 1960s but has started to rise again. The "ratio of mean income of college and high school graduates" reached a peak level for full-time workers aged 25-34 of 1.38 in 1968 and 1.39 in 1969. It fell to 1.16 in 1974 but had risen again to 1.24 in 1976 (Smith and Welch, 1978)⁶ and is likely to rise some more. The percentage of the labor force in

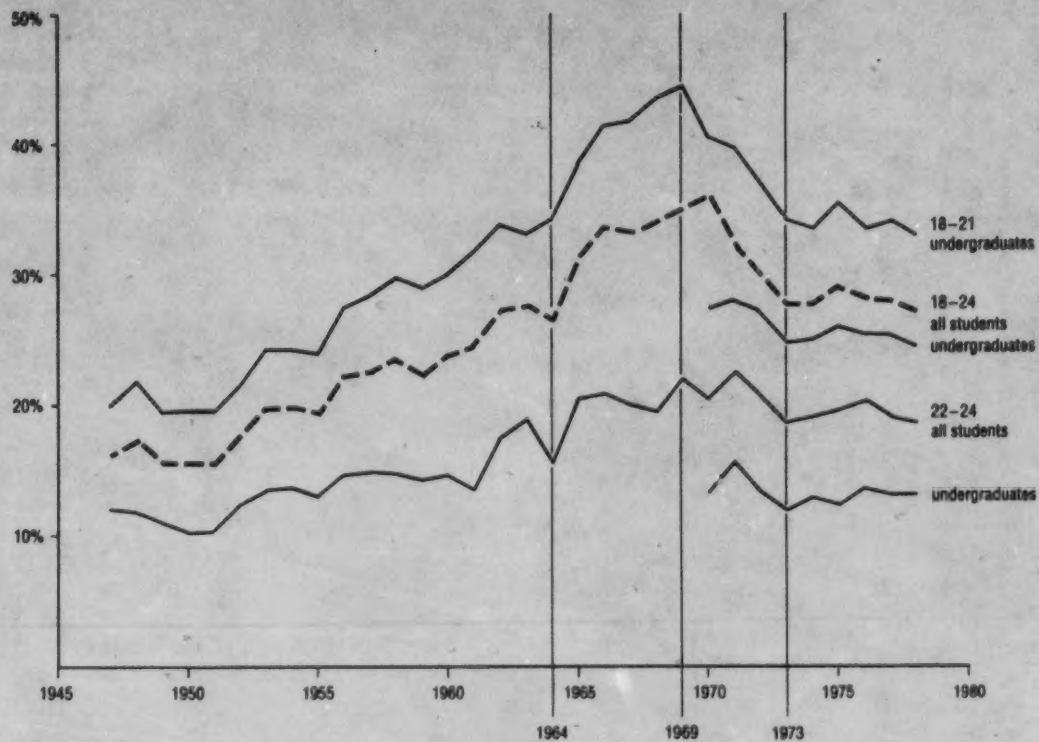
⁶For a discussion of the effects of the job market on enrollments in the past, see Gordon (1974) "Introduction."

Figure 8. College participation rates, men in selected age groups, 1947 to 1978 (includes graduate enrollment)
Excluding the Vietnam war period.



Source: U.S. National Center for Education Statistics, *Fall Enrollment in Higher Education*, appropriate years.

Figure 9. College participation rates, men in selected age groups, 1947 to 1978



Source: U.S. National Center for Statistics, *Fall Enrollment in Higher Education*, appropriate years.

"managerial" and in "professional and technical" occupations has been rising rapidly (it is now 25 percent of the total) and will rise even higher. These occupational groupings draw heavily on persons who have attended college.⁷ Also, more persons intent on entering the skilled crafts and public service occupations (like that of police) are going to college, although often for only two years. Additionally, graduation rates from high school and attendance rates in college may continue to rise toward the national average in some states in the South and elsewhere, raising the national average.

5. We turn next to a consideration of other enrollment components:

- More majority females. Their numbers have been rising to match those of men, and we expect their participation rates to rise above those for men. One reason is that new opportunities are opening to them. Another reason is that to obtain good jobs with substantial pay college degrees are more important to women compared to men who can also get such jobs without a college education as commercial farmer, as skilled craftsman, as over-the-road truck driver, and so forth.⁸ Females, in general, now graduate from high school at a rate 3.3 percent above that for men.
- More blacks. Opportunities for blacks are especially improved by college attendance, and they have a long tradition of placing a high value on education. We expect that their attendance rates will equal those of whites. They already exceed those for whites within the same income ranges. We expect attendance rates for blacks in the top half of the overall income range to exceed those for whites in the top half of the overall income range, but we expect attendance rates for blacks in the bottom half of the overall income range to remain below those for whites in that half of the overall income range. Some parts of the black community are moving

⁷For a discussion of these and other considerations, see Supplement C, *The Labor Market and Higher Education*. It should be noted, in particular, how different rates of economic growth, for example 2 or 3 or 4 percent in GNP, make a very great difference in the employment market for youth.

⁸An offsetting factor, however may be a rise in the birthrate which would keep more women at home and out of both college and the labor market. See the discussion in Easterlin (1978).

ahead faster than others. Blacks, also, are becoming a higher proportion of all youths.

- **More Hispanics.** We consider this to be a great imponderable. High school completion rates for them (54 percent) are below those for blacks (64 percent) and whites (80 percent), and there is not the same traditional support for college attendance, particularly for females, as among blacks. Additionally, the prospect for continuing migration across the Mexican border is a great unknown. We also note the great variations among Hispanics—Cubans (6 percent) follow the national college attendance pattern, Chicanos (59 percent) tend gradually to catch up with it, Puerto Ricans (16 percent) to lag behind.⁹ These variations have major regional implications for local attendance patterns (one-half of all Hispanics are in California and Texas, and they are largely Chicanos). Since Hispanics will become the largest minority population, the uncertainty about them is of major import in making national and, in particular, certain regional projections. A further factor is that, because Hispanics are not a separate race, they have not been separately identified in census population projections and so it is not possible, as it is for blacks, to project their historic participation levels. However, to the extent that their participation rates rise and to the extent that there will be more, even considerably more, of them, this will affect overall enrollment numbers favorably for both males and females.
- **More retention.** The dropout rate in four-year colleges historically has been about 50 percent with many dropouts for financial reasons. It has now fallen to 40 percent, with the major single reason being given as "boredom." We expect it to fall some more. We expect colleges to exert an all-out effort to increase the retention rate. We estimate that these efforts may add a 20 percent gain in time spent in college by those who in the past have not completed their four-year degrees and by academic transfer students enrolled in community colleges. Private colleges, in particular, have a great incentive to increase the number of their alumni with degrees since financial support comes proportionately more from them than from those who drop out. We note,

⁹Persons from Central and South America and "other Spanish" make up the remaining 19 percent. They may, perhaps, best be grouped with the Chicanos in terms of potential enrollment patterns.

however, that the recent retention experience in community colleges has been disappointing and so also has been the transfer rate to four-year colleges. Nevertheless, the internal market of students already on campus is both large and readily available for retention.

- More part-time students. This will continue the current trend. It reduces to some extent, however, the level of full-time equivalent (FTE) enrollments. We expect that more students with good opportunities in the current labor market and prospective good returns on a college education will seek to combine work and education in the 1980s and 1990s. Interest in time-shortened degrees may also increase with the same effect on enrollments as students seek to enter the labor market on a full-time basis sooner and reduce the costs of college attendance to themselves and to their families in the course of doing so.
- More high school students (16- and 17-year olds) taking college level work in actual college classes on a part-time or full-time basis.
- More foreign students. The world population is rising rapidly, and some families in a number of developing countries are becoming increasingly affluent. Some American colleges are actively recruiting foreign students, and more may be expected to do so. Attendance has risen from 50,000 to 250,000 since 1960.¹⁰

These several considerations add up to an estimated increase of 10 percent (2 percent for blacks, 4 percent for majority women, and 4 percent for retention); offset by an estimated decline of about 5 percent for more part-time enrollment; for a net increase of 5 percent.

¹⁰Although we expect that the number of foreign students in this country will continue to grow, we have not included a specific calculation in the enrollment projection for several reasons: In recent years the U.S. share of students studying in foreign countries has been decreasing relative to other countries (although we continue to receive the greatest numbers). Over one-fourth of our foreign student population is from OPEC countries and could be affected by foreign policy developments. Exchange programs with China and other countries are expected to expand, but the numbers of new students will be very small relative to our present enrollment of over 11 million. Finally, although only half as many Americans go abroad to study as students from other countries who come here, the rate of increase has been about twice as great as the increase in foreign student enrollments in this country.

We do not make calculations on Hispanics, 16- and 17-year-olds, and foreign students, although increases in these groupings would add to the 5 percent. Applied to a -10 percent (item 3 above) this results in -5 percent (C in Table 3 and the high end of our range); and applied to the -15 percent (item 4 above) comes to -10 percent (D in Table 3 and the mid-point of our range.)

A decline of 15 percent would result in 1997 FTE undergraduate enrollments at the same levels as 1971; of 10 percent, 1973; and 5 percent, 1974 (see Figure 10).

We have concentrated on 1997, the expected low point for undergraduate enrollments. If enrollments were to fall by 15 percent, this would amount to an average decrease of less than 1 percent a year. We note that in the 1970s about 15 percent of all institutions experienced an enrollment decline of 20 percent or more and survived the decade.

The decline will not come, however, at an even pace. Undergraduate enrollments are likely to remain fairly even through the academic year starting in the fall of 1982, even rising some. Then there will be:

Slide I: From fall 1983 through the academic year starting in the fall of 1988 (followed by a possible rise in 1989 and 1990); and then

Slide II: From the fall of 1991 through the academic year starting in the fall of 1997.

The first slide will carry enrollments down about 40 percent of the total decline and the second slide, the remaining 60 percent—this second slide will be the more precipitous of the two. (See Figure 11.)

This all adds up to four years on a plateau of enrollments (the academic years starting in 1979, 1980, 1981, and 1982), six years in the first slide and another six in the second slide for a total of twelve, with two years of a plateau or slight recovery in between and then followed by three years of recovery at the end from 1998 to 2000. Thus, there will be twelve really difficult years in the course of the next two decades; with six better years scattered at the start and the end and in the middle of this period.

Colleges will do what they can to smooth out the secondary impacts of this changing enrollment pattern on faculty hiring and

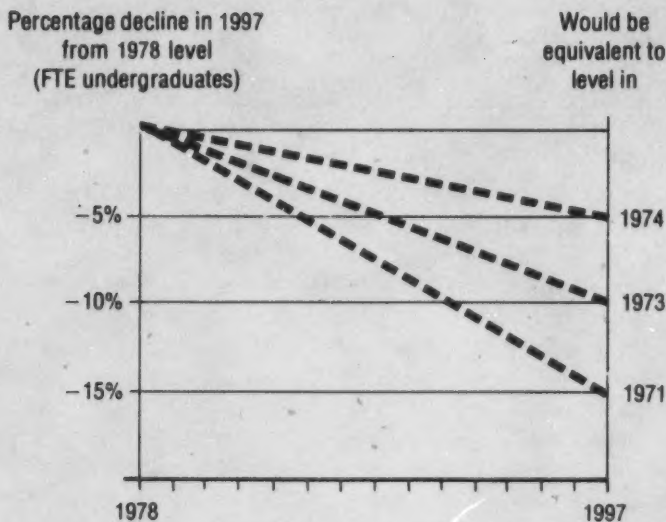
retention, and on their financial expenditures. Many of the repercussions will be subdued by adaptations within the system.

Colleges in general have about three more full academic years to prepare themselves for the onslaught of Slide I.

Enrollments of 18-year olds will, of course, fluctuate much more than all enrollments, and some colleges heavily dependent upon them will be on a real roller coaster.

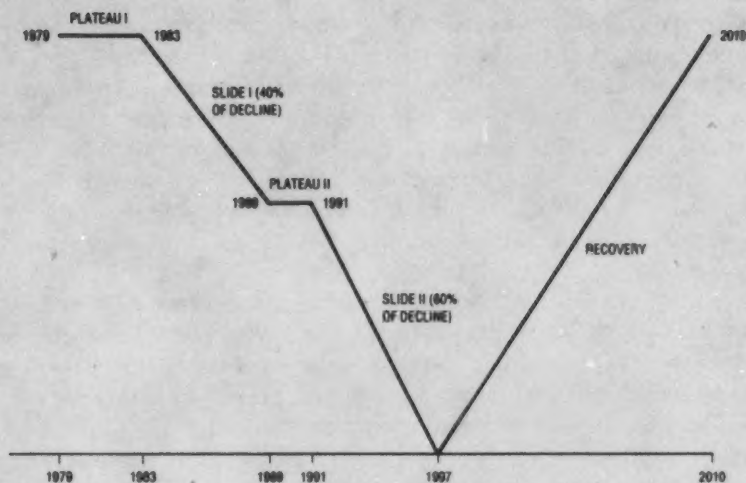
In a much more tentative way, we have tried to look ahead to the year 2010. We expect the future fertility rate to be higher than the 1.8 rate of the last few years.

Figure 10. Potential declines in FTE undergraduate enrollments as related to enrollments in prior years



Sources: Carnegie Council estimates; 1974, 1973, and 1971 comparisons from U.S. NCES, *Fall Enrollment*. . . appropriate years.

Figure 11. Generalized view of enrollments, 1979-2010



Source: Carnegie Council estimates.

We use the maintenance rate (2.1) for the period 1997 to 2010. We do this because the fertility rate might rise, but, more importantly, because rising levels of immigration are likely to have the same effect on enrollments. We do not expect that the United States, given its economic, political, and military positions in the world, and given the pressures for entry by aliens, will accept the possibility of a declining total population or a long-run decline in the college population.

If undergraduate enrollments should decline by 10 percent by 1997, we would expect them to rise to about 1979 levels by the year 2010. This will be the period when the grandchildren of the GI's start attending college—a period of a new bulge.

The period of 2000 to 2010 will be a time of movement for other reasons than increasing enrollments. Faculty members recruited in the 1960s and 1970s—more than one-half of all faculty members—

will be retiring during this period. This will create many opportunities for new hires, including of women and minorities; it will lower the average age and average real salary levels of faculty members; and it will permit many adjustments to new fields of teaching and scholarship. The building space created in the 1960s and 1970s—one-half of all such space—will need to be remodelled or rebuilt, creating possibilities for better use of energy, improved use of new instructional media, more pleasing architecture. The conditions of the times are likely to draw into the leadership of higher education more persons interested in building institutions and undertaking innovations than was the case under the conditions of the prior two decades.

Notation: The new and preliminary enrollment figures for fall 1979 (as released by the National Center for Education Statistics in November 1979) are in all respects consistent with the above analysis; for example, that we are on an enrollment plateau, that there is a comparative increase in women, that part-time enrollment is growing. These figures were not available when the above analysis of potential trends was made.

Graduate Enrollments

We expect graduate enrollments to rise slightly between 1980 and 2000 in relation to undergraduate enrollments, despite the gloomy predictions about the value of the Ph.D. Too much has been made out of too little, in our judgment, based on prospects in too small a segment of the total. We have heard mostly about the less than 10 percent of graduate work that is in deep trouble (the academic Ph.D.) and less about the other more than 90 percent that has been moving along unimpaired or has even prospered. If graduate enrollments rise slightly relative to undergraduate enrollments, this would mean that they might (on the assumption of undergraduate declines in the range of -5 to -15 percent) remain roughly stable or fall roughly 10 percent.

Our anticipations for graduate enrollments take into account the following considerations:

There has been a secular rise in graduate enrollments starting from 0 percent of all enrollments in 1870 and rising to 7 percent

(FTE basis) in 1960 and 11 percent in 1977.¹¹

Graduate enrollments relate to a longer age span than undergraduate enrollments, which concentrate on the years 18 to 21. Low years for the 18-21 and even the 18-24 age cohort will not have as much impact upon them.

More and more professions are encouraging, for entrance opportunities, some work beyond the four-year undergraduate degree, as in engineering and business administration.

Some old professions are still expanding, as are law, theology, and health care specialties, including doctors of medicine and dentistry.

New professions are being created.¹²

Promotions and increased pay in more and more fields, as in teaching, social work, and other civil service occupations depend upon additional graduate work. This is also true in private employment fields such as engineering and computer programming. Education, which has declined at the undergraduate level—down in enrollments by one-quarter since the middle sixties, still prospers at the graduate level—up by one-quarter.

Many women and minorities are catching up with their expanding opportunities in new careers or with promotional as well as pay prospects in their current employment.

Competition in the bulge group of adults is fierce, and graduate education is one way of getting ahead of the competition; it is also a way of changing jobs; and it is also a way of adding to quality of life whatever the degree of success in the competition.

Some areas are negatively affected already in terms of enrollment, however, by the decline in the hiring of college teachers. These are in the academic Ph.D. categories, where all, or nearly all,

¹¹Graduate enrollments constituted 14 percent of all enrollments in 1977 on a headcount basis, while graduate degrees were 25 percent of all degrees awarded in that year and were 31 percent of bachelors' and higher degrees.

¹²The number of occupational titles in both the "professional" and the "managerial" categories increased by 20 percent between 1960 and 1970.

employment is in college teaching, as in the humanities but also physics and botany. The academic-professional areas, such as chemistry and economics, find declines in college positions offset by increases in government and industry. Professional areas, like business administration, are doing well.

Our anticipations include:

Possible continuing increases at the M.A. level and further increases in some advanced professional fields

A decline of 50 percent by 1990 in what is now the academic half of Ph.D. graduates (the half now largely devoted to preparation for academic occupations),¹³ with the other half holding constant. This academic half now accounts for only one-twelfth of total graduate enrollments. It is on this one-twelfth that many conceptions have been formed about the sad fate of graduate education in general.

The important phenomenon at the graduate level, as we see it, is internal redistribution rather than any major overall rise or decline. Graduate education has become a volatile element within total enrollments. It is volatile by level—first the Ph.D. level was up and now the M.A. It is volatile by field—for example, with science yielding popularity to business administration and theology. This volatility affects greatly the destinies of some colleges and universities and many fields. Graduate education has become the plaything of the labor market, of changing public policies in supporting graduate fellowships, of shifting social and intellectual concerns. The graduate division was once an enclave of sobriety and stability, and now it shows more instability than do undergraduate enrollments. Consequently, we make no specific projections about graduate enrollments, only noting that we expect them, over the two decades as a whole, to rise somewhat compared to whatever may happen to undergraduate enrollments.

¹³New doctorates employed by colleges have already gone down from their peak levels by two-thirds.

Uncertainties

We have discussed in our sessions, but are uncertain about, some other possible impacts on enrollments:

Military manpower policy—how many youths will be needed and what inducements will be offered to them, including educational subsidies? If absolute numbers in the armed services remain constant, then about 9 percent of all males 18-24 will be required in 1990 as against 7 percent now.

Youth policy—to what extent may public policy turn toward subsidy of the less advantaged youth and away from subsidy of the generally more advantaged youth who go to college; and to what extent might public policy start subsidizing entry into the labor market when youth will be in short supply rather than into college as it did when youth was in oversupply in the 1960s and 1970s? Changing public youth policy could have significant consequences.

Alternatives to college attendance—how many students will be drawn into what we have earlier called the Third Sector of educational activities by noneducational institutions, such as corporations; into use of new electronic media for instruction off campus; into credit-by-examination and credit-for-work experience managed by the First, or collegiate, Sector?

Application of the great "vacuum cleaner"—how many enrollments will colleges add by seeking out students wherever they may be found in places of work, in the military, in prison, in retirement; among housewives, among new immigrants, among high school students?

Affluence—how much will affluence increase, and will increasing affluence in the future, as in the past, lead to greater parental expenditures on college attendance by their children?

Inflation—if it continues, how much effect may it have on directing the attention of young persons and their parents to getting current income and reducing current expenditures, as against seeking a possible higher future income; or choosing a public instead of a private institution and, among public institutions, one within commuting distance?

More young people who are children of persons who went to college—will participation rates for this group continue

to be comparatively high as in the past? Will college attendance come to be more and more the normal thing for young people to do?

Federal largesse in the form of student aid—were some current proposals to increase student aid dramatically carried into full effect, then young persons might pour into colleges, as seems to have happened already to a minor extent as a result of the Middle-Income Student Assistance Act of 1978. This could particularly be the case if such dramatic increases come at a time of prolonged and massive youth unemployment—young persons would have an offer they could not refuse.

We present our projections, at both the undergraduate and graduate levels, as a general estimate of what the future may hold. We think they suggest, at a minimum, that higher education faces neither a disaster nor a continuation of a Golden Age. They suggest moderate specific preparations for the future, not overall crash programs or just more of the same by everybody.

We do not present our projections year by year because they might create an impression of too great certainty and specificity; they would be an instance of misplaced concreteness in the midst of many uncertainties. Nor do we present a model based on two or three statistical inputs. We present instead a judgment call based on many considerations.

We end this discussion of potential enrollments with a caution. Earlier projections by the Carnegie Commission and the Carnegie Council have turned out to be on the high side.¹⁴ In particular, the number of low-income students attracted by new student financial

¹⁴See *The Open Door Colleges: Policies for Community Colleges*, A Special Report and Recommendations by the Carnegie Commission on Higher Education (1970a); *New Students and New Places: Policies for the Future Growth and Development of American Higher Education*, A Report and Recommendations by the Carnegie Commission on Higher Education (1971); *Priorities for Action: Final Report of the Carnegie Commission on Higher Education* (1973a); *More Than Survival: Prospects for Higher Education in a Period of Uncertainty*, A commentary with recommendations of The Carnegie Foundation for the Advancement of Teaching (1975). Some other estimates of enrollment made earlier were also overly optimistic. Lewis Mayhew (1962, p. 93), for example, suggested in the 1960s that, "If the American ideology continues to evolve in its present direction of insisting that large numbers of young people receive college education, over 80% of the age group may well be enrolled in institutions of higher learning."

Figure 12. Projected undergraduate student characteristics in 1960 and 2000 (projected)

WOMEN



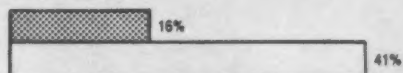
MINORITIES



PART-TIME



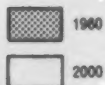
TWO-YEAR



COMMUTERS



OVER-22 AGE GROUP



Sources: U.S. Bureau of the Census (1964); U.S. NCES (1972); and Carnegie Council estimates.

aid programs was overestimated.¹⁵ In comparison with most persons and groups looking ahead to the future of higher education, we are once again clearly at the optimistic end of the spectrum.

Implications of the Demographic Depression for Students

Recent developments and the changes we project for the remainder of the century will give us a dramatically different composition of the national student body than we have had traditionally (Figure 12). In 1960 it was composed predominantly of young majority males attending full-time. By 2000, there will be more women than men, as many people over 21 as 21 and under, nearly as many part-time as full-time attendees, and one-quarter of all students will be minorities. Roughly one-half of the students in the classroom of 2000 would not have been there if the composition of 1960 had been continued. This is a fundamental, almost radical change in higher education.

We expect that students will be more nearly the center of attention on campus during the next 20 years than in the past 10. They will be recruited more actively, admitted more readily, retained more assiduously, counselled more attentively, graded more considerately, financed more adequately, taught more conscientiously, placed in jobs more insistently, and the curriculum will be more tailored to their tastes.

The demographic depression may cause difficulties for institutions, and for actual, and particularly for prospective, faculty members, but it may seem more like high prosperity for the students. They will seldom, if ever, have had it so good on campus. The difficulties of others can only redound to their advantage. This may well become their Golden Age.

¹⁵See Figure 17 for data showing no improvement in the ratio of lower income to higher income students for 1970 to 1977. This contrasts with our expectation of improvement (see, in particular, The Carnegie Foundation for the Advancement of Teaching, 1975).

A Disaggregative Approach to Enrollments

No demographic disease of epidemic proportions will sweep over all of higher education during the next 20 years. The demographic disease, rather, will be selective; some institutions will die from it; nearly all will be affected by it in one way or another; and all will need to take some precautions. But institutions must be looked at one at a time, case by case. Although we cannot make this examination, only the individual institutions can do that, we can indicate how an individual institution may be affected as part of the category within which it falls, by the region and locality where it is located, by its size and institutional identification, and by the presence of close competition.

We shall refer first to the Carnegie classification of institutions.¹ Table 4 shows the number of institutions and the total number of enrollments in each classification.

¹For a full definition of these classifications and for other data looking at institutions of higher education in a disaggregative way, see Supplement D, *Gainers and Losers Among Institutions of Higher Education*. A brief listing of these classifications follows:

Research Universities: Among the 100 leading institutions in federal funding and awarding at least 50 doctorates.

Doctorate-granting Universities: Other universities awarding substantial numbers of doctorates.

Comprehensive Universities and Colleges: Institutions offering a liberal arts program in addition to professional or occupational programs, many offering the master's degree, but with very limited or entirely absent doctorate programs.

We see as falling in the least vulnerable category, in terms of negative enrollment changes, by and large, the following types of institutions:

Research Universities. They generally have high admission standards that can be lowered (with exceptions such as the University of California under the Master Plan), and they recruit on a regional or national basis. Their research and service functions should be in good demand. Their medical and other professional schools should be generally unaffected. Their only serious difficulties will be in the academic doctorate areas, some of which will be severely affected.

Selective Liberal Arts Colleges. These also have high admission requirements that are subject to downward adjustments, and they also are not limited to a single recruitment area. Generally, they have substantial endowments per student and strong alumni support. With less future pressure from the labor market directing their students toward vocational subjects and good prospects for their students in professional graduate fields, which recruit heavily from these colleges, their emphasis on the liberal arts can be more of an asset that it has been during the past decade.

We note generally that, among the research universities and the selective liberal arts colleges, the best may become comparatively better and the not-quite-the-best may become comparatively worse in the average academic precollegiate quality of their students, as the former fully maintain the selectivity of their students while the latter must make some concessions because the already small size of the pool of the ablest (and also well-to-do) students will have declined.²

Liberal Arts Colleges I: Highly selective four-year colleges offering a liberal arts program.

Liberal Arts Colleges II: All other four-year liberal arts colleges.

Two-Year Colleges and Institutes.

Professional Schools and Other Specialized Institutions: Institutions that have only a professional or specialized curriculum and do not have a liberal arts program.

Institutions for Nontraditional Study.

²See Doermann, 1978. He found that only 10 percent of high school graduates scored 450 or better on the verbal section of the Standard Achievement Test (SAT) and came from families in the top quartile of the income range.

Table 4. Institutions of higher education by Carnegie classification and control, with full-time equivalent enrollment, 1977

<i>Carnegie Classification</i>	<i>Number</i>	<i>Percentage of total institutions</i>	<i>Full-time equivalent enrollment</i>	<i>Percentage of full-time equivalent enrollment</i>
Research Universities	98	3.1	1,657,148	19.4
Public	62	2.0	1,321,088	15.5
Private	36	1.2	336,060	3.9
Doctorate-granting Universities	86	2.8	929,362	10.9
Public	57	1.8	708,692	8.3
Private	29	0.9	220,670	2.6
Comprehensive Colleges and Universities	593	19.0	2,554,277	29.9
Public	354	11.3	1,901,274	22.3
Private	239	7.7	653,003	7.7
Highly Selective Liberal Arts Colleges	123	3.9	147,399	1.7
Public	0	0	0	0
Private	123	3.9	147,399	1.7
Other Liberal Arts Colleges	468	15.0	342,698	4.0
Public	11	0.4	15,816	0.2
Private	457	14.6	326,882	3.8
Two-Year Colleges	1,178	37.7	2,527,588	29.6
Public	923	29.5	2,376,129	27.8
Private	255	8.2	151,459	1.8
Other Specialized Institutions	578	18.5	376,936	4.4
Public	75	2.4	129,212	1.5
Private	503	16.1	247,724	2.9
Total	3,124	100.0	8,535,408	100.0

Sources: Carnegie Council Classification (1976); U.S. Center for Education Statistics (1978c).

Public Community Colleges. They have constituted the fastest growing segment of higher education over the past two decades. They enjoy strong local support and appeal to what we expect to be enlarging categories of students: minorities newly entering the stream of higher education, adults, and part-time students. They also are still adding to their functions (traditionally the offering of academic transfer, technical, and terminal general programs) new areas of activities designated as "community service" (instruction in nonvocational and nonacademic areas, such as swimming, physical fitness, and target practice) and "community based" (noninstructional cultural, recreational, social, and professional programs, such as local conventions and conferences). They may add more responsibilities for service to local youth, as we have recommended elsewhere.³ Additionally, their approaches fit the new styles of many young people: easy-in, easy-out; part-time studies; low levels of pressure; vocational and recreational courses; opportunities to live at home or in a noncollegiate community; great leeway for individual patterns of behavior. In California, at least, many community college students are transfers from four-year institutions.

They are, however, vulnerable in certain ways: to Proposition 13 type actions when they are substantially funded from local sources, as in California where enrollments have recently decreased by 10 percent; to restrictions on gasoline supplies available

³See Carnegie Council on Higher Education (1979c). In Section 10 of that report, we recommend that colleges and universities (1) seek opportunities for partnerships with secondary schools, as in Boston, (2) establish offices of community service, (3) take decisive steps to reform teacher training, and (4) give special attention to improving the training of school administrators. Community colleges (and in some cases comprehensive colleges) should (1) cooperate with Comprehensive Employment and Training Act (CETA) and school authorities in the development of training and work-experience programs (as many are already doing), (2) experiment with admitting students at age 16 and with the development of middle colleges that combine the last year of high school with the first year of college, (3) open their occupational programs to high school students, and (4) develop more opportunities for cooperative education and apprenticeship. The federal government should support these changes by (1) increasing appropriations for FIPSE (especially for projects of colleges and universities designed to serve disadvantaged youth), (2) increasing funding of the Trio programs, and (3) increasing funding of the Teacher Corps program.

to students since they are commuter institutions⁴, to competitive intrusions from comprehensive colleges and universities in their areas eagerly searching for students; to the new electronic means of instruction; to the diversion of second-generation students to four-year institutions; to low retention rates as students stop out as well as in.

We note that community colleges may be classified as comprehensive or as specialized. The foregoing remarks relate primarily to the former. The latter can be greatly affected by the nature of their specialty; for example, some two-year institutions in Wisconsin were primarily concentrated on teacher training (12 of them have been closed) and some in North Carolina on one or a few technical specializations. About 10 percent of all public two-year colleges are specialized (and usually quite small); one-half of these (about 50) are academic only (most of them branch campuses of universities) and one-half of them (also about 50) are vocational only.

Community colleges also are under political attack from black colleges in the South, which operate in the same recruitment areas, and from social analysts on the political left who consider them to be part of a capitalist conspiracy to keep down the poor and the minorities.

The in-between category of average or above average vulnerability, but with many individual variations, includes:

Doctorate-granting Universities. Their academic Ph.D. programs will be especially hard hit. With few placements of such Ph.D. recipients in total, those who are placed will come mostly from the more prestigious research universities. With generally lower admission requirements already at the undergraduate level, these institutions have less flexibility in the way of downward adjustments than do the research universities. They are also more tied to demographic trends in their immediate regions, and this will hurt some much more than others.

⁴Which suggests a need for smaller and more widely distributed campuses and the introduction of bus services.

Comprehensive Colleges and Universities. These institutions also are tied more to their localities and more restricted in lowering admissions than are the research universities. Some of them are better situated, nevertheless, to draw on the traditional junior college market than are doctorate-granting institutions; and intense competition between many of these institutions and some community colleges is already beginning. Many of them are also aggressively pursuing the new M.A. market. This type of institution often pushed hard in an upward academic direction toward research and the Ph.D. in the 1960s, and many will push hard downward in the 1980s. They are well situated to move now in one and now in another direction as circumstances change. Along with the community colleges, they have demonstrated in the past unusual resiliency in adjusting to new circumstances.

Again, there are many variations within this category. Institutions that still concentrate on teacher education have already been hard hit; those that moved early and far into other occupational programs are much better situated, particularly if they have strong offerings in areas such as paramedical training and mineral technology. Generally, the public institutions have better assured futures than the private. However, some public institutions in this classification are very small and located in depopulating areas, and some private institutions are large and situated in metropolitan areas with many opportunities for adult, M.A., and other expanding programs.

The most vulnerable category, with enormous variations among individual institutions, includes:

Less-Selective Liberal Arts Colleges. It is not generally possible for them to greatly lower their admission requirements, and they usually recruit in their localities. For the latter reason, they can be badly affected if they are in a small town or rural area that is losing population or in a state that is losing population; and many of them are located in the East and Midwest, which are losing population. They can also be vulnerable if they are in large metropolitan areas with a vast range of low-tuition public institutions. They are particularly vulnerable if they are single sex, and very small in size—with heavy fixed costs per student and

unable to offer the range of programs, particularly technical ones, that students have recently been demanding. If they have concentrated on teacher education and/or first-generation ethnic students, they are additionally affected. Teacher education at the undergraduate level has generally been cut by one-quarter. Second-generation students are likely to explore college opportunities more widely than is possible in the local, and often religious, institutions with which non-college attending parents have generally felt more comfortable as places for their children.⁵

For several of these reasons, less-selective Catholic institutions have been and will continue to be facing trouble.

Many of the colleges in this overall category feel particularly threatened by neighboring public comprehensive colleges and universities with low tuition and a broader variety of courses.⁶

There are many exceptions within this general category but particularly fundamentalist Protestant colleges in the South and colleges in expanding regions such as the Southwest, which are doing well with their enrollments.

Private Two-Year Colleges. They generally face the same handicaps as the less selective liberal arts colleges and have been, in any event, a declining group for some years. They are, however, a very heterogeneous group, and it is difficult to generalize about them. The more academic among them are more threatened than the more vocational, some of which are expanding their enrollments.

Only about 10 of the over 700 institutions in the more vulnerable categories are public; the remainder are private.

The first group of institutions will be more concerned with internal adjustments than with total decline of enrollments; the

⁵Second-generation students (currently half of the total) show greater preference than first-generation students for private institutions, and for research universities and selective liberal arts colleges. First-generation students are more likely to go to public community colleges and comprehensive colleges and universities, and to private less-selective liberal arts colleges. The generational effect on choice of institutions is substantial (see Table 5), and there will be comparatively more second-generation students in the future.

⁶See the discussion in Carnegie Council on Policy Studies in Higher Education (1977, pp. 21-22).

Table 5. College attendance patterns among first- and second-generation^a undergraduates, 1975

Carnegie Classification	Percentage Enrollment	
	First-generation	Second-generation
Total	53	47
Public	56	44
Private	42	58
Research Universities	33	67
Public	35	65
Private	24	76
Doctorate-granting Universities	42	58
Public	43	57
Private	38	62
Comprehensive Colleges and Universities	53	47
Public	55	45
Private	49	51
Liberal Arts I Colleges	23	77
Public	0	0
Private	23	77
Liberal Arts II Colleges	53	47
Public	65	35
Private	50	50
Two-Year Colleges	67	33
Public	67	33
Private	53	47

^a As measured by father's education: First-generation = father's education less than "some college"; Second-generation = father's education that is "some college" or higher.

Source: Carnegie Council Survey of Undergraduates, 1975.

second with both; and the third with total decline, including, in some instances, the possibility of mergers, extinction, or fundamental restructuring. Few institutions in the first group are likely to disappear (no research universities, and only two selective liberal arts colleges totally disappeared in the 1970s, although two of the latter merged with other institutions and one went under public control); some in the second; but possibly many in the third, particularly among the two-year private colleges. Assuming that the first group loses less than the average in total enrollments and the second loses about the average or a little more, then heavy losses must be sustained within the third category. Table 6 shows the number of institutions and their current enrollments in each of these categories. It shows the small size, in terms of enrollment, of the category that may have to absorb the heaviest blows.

We consider it very problematical to set forth estimates of the number of private colleges that will close. Recent estimates have suggested that 200 might close or that 200 might survive.⁷ Too much depends on private actions and public policies that are as yet undetermined to make such estimates anything more than a wild guess. However, in our survey of institutions, 8 percent of the presidents saw the possibility of some major institutional change in the future including closing, merger, and shift in control from private to public sponsorship (Table 7). This is actually a slight decrease from the 10 percent shown in a similar survey in 1974.⁸ There is, in any event, a modest attrition rate for institutions. From 1940 to 1970, 0.5 percent of all institutions closed or merged each year. This rate rose to 0.8 percent in the 1970s. Thus, the abnormality of the 1970s was not the total of 0.8 percent but the excess of 0.3 percent over the prior average. The prior number of closures and mergers amounts to 15 per year or 150 per decade, or an estimated 300 from 1980 to 2000. The questions then are: Will mergers and closures exceed 300 by 2000, and what types of institutions will be most affected?

⁷For the estimate of 200 closures see Behn (1979). For the estimate of 200 survivors (specifically 170) by 2007 "unless remedial action is taken soon," see Pyke (1977).

⁸Glenny and others (1976, p. 56). There has been an internal shift, however, with doctorate-granting universities now comparatively more uncertain about their futures.

**Table 6. Classification of institutions of higher education
by apparent degree of vulnerability, 1978^a**

	<i>Institutions</i>		<i>Enrollment</i>
	<i>Number</i>	<i>Percentage</i>	<i>Percentage of full-time equivalent enrollment</i>
Less vulnerable	1,144	45	51
Research universities	98	4	20
Selective liberal arts colleges	123	5	2
Public two-year colleges	923	36	29
Vulnerable	679	27	43
Doctorate-granting universities	86	3	12
Comprehensive colleges and universities	593	23	31
More vulnerable	723	28	6
Less selective liberal arts colleges	468	18	4
Private two-year colleges	255	10	2

^aExcluding specialized institutions.

Source: U.S. NCES (1979d) data adapted by Carnegie Council.

Table 7. Expectations of college and university presidents who say their institutions are likely to undergo major change, such as merger, consolidation, change in control, or closure by 1985-1986

	Research universities I		Research universities II		Doctorate-granting universities I		Doctorate-granting universities II		Comprehensive universities & colleges I		Comprehensive universities & colleges II		Liberal arts colleges I		Liberal arts colleges II		Two-year colleges		Total	Percentage of total
	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv		
Weighted N (sample) =	32	22	33	14	38	18	19	11	247	128	101	106	0	123	11	457	905	132	2,397	—
Change																				
Merge with another institution without change in control	0	0	3	0	0	1	0	2	6	4	6	2	0	0	2	18	24	7	75	
Become part of a multicampus system ^a	0	0	0	0	1	0	1	0	6	0	4	0	0	0	0	0	36	0	48	
Private institution will become public	—	0	—	0	—	0	—	0	—	2	—	0	—	0	—	0	—	14	16	
Possibly will close	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	18	12	14	47	
Total changes	0	0	3	0	1	1	1	2	12	6	10	4	0	0	3	36	72	35	186	7.8%

^a Includes respondents expected to join an existing system, as well as those expecting a new system to be created.

Note: Five presidents mentioned "increased cooperation" with another institution as a possible major change. Under an "other" category not tabulated above, five institutions in Massachusetts indicated they were expecting major changes as a result of a reorganization of higher education in their state. Three others also expected a revision of state systems. Several mention expectation of more state control, although their status will not be changed nominally.

Source: Carnegie Council Survey, 1978.

Regional Variations

The states are in quite different situations, some losing and some gaining population, some with lower and some with higher fertility rates, some with lower and some with already higher high school graduation and college attendance rates, some exporting and some importing students, some gaining and some losing in comparative per capita income. Table 8 shows the variations among states. Figure 13 converts the information in Table 8 into a judgment of whether enrollments in each state will exceed, approximately equal, or fall below the changing national average. The Southwest and the West seem to be most favored. The South is generally in an advantageous position, but there are great variations there (Spence, 1977, p. 28, Mingle, 1978, p. 9). West Virginia is in quite a different situation from Florida, for example. The Northern Tier of states is less favored. Painting with a very broad brush, it appears that *comparative shares* of college enrollments will change about as follows:

East:	-10 percent
Midwest:	-10 percent
South:	+ 5 percent
Southwest and West:	+10 percent or more.

Some institutions in the South and West that are now in the second rank academically will make it into the first rank by the end of the century.

Private and public institutions are somewhat differently affected by these geographical variations (see Figure 14). Nearly 60 percent of private full-time equivalent enrollment is in states rated as "worse than average" or "much worse than average," but only about 40 percent of public enrollment is in such states.

Specific locations are more important for some institutions than for others. For those dependent on local recruiting, it is better to be in a viable downtown area, such as Minneapolis or Denver, than in St. Louis or Newark, which are currently much less viable; in a growing suburb than in a depopulating rural area.

Table 8. State variations from the national average in youthful population, birthrates, high school graduation, college attendance, private enrollment, student migration, population changes, net migration of the population, per capita income, tax capacity, and tax effort, selected years.

	(1) Percentage change in 15-24 year old population, 1980-1990	(2) Percentage change in 15-24 year old population, 1980-1995	(3) Birthrate per 1000, 1977	(4) High school graduation, rate, 1977	(5) Attendance rate in college, full-time equivalent enrollment/ state popu- lation, 1977	(6) Private full-time equivalent enrollment as percentage of total full-time equivalent enrollment, 1976-1977	(7) Home-state students as percentage of enrolled students	(8) Percentage change in population, 1970-1977	(9) Percentage net migration of population, 1970-1977	(10) Percentage increase in per capita income, 1969-1978 (current \$)	(11) Tax Capacity Index, 1975	(12) Tax Effort Index, 1975
UNITED STATES												
The national average	-16.4	-18.5	15.4	75.3	3.9	23.6	.83	6.4	3.4	100*	100	100
ALL STATE FIGURES ARE DIFFERENCES FROM THE NATIONAL AVERAGE*												
NEW ENGLAND												
Connecticut	-7.3	-11.6	-3.7	+ 2.0	-0.4	+15.6	-.02	-3.9	-4.6	-19	+13	- 6
Maine	+2.6	+ 2.7	-1.0	+ 8.1	-0.9	+ 5.1	-.10	+3.2	+1.2	- 3	-26	+25
Massachusetts	-3.8	- 7.0	-3.4	+ 5.3	+1.2	+32.8	-.09	-4.8	-4.6	-14	- 6	+30
New Hampshire	+4.5	+ 4.4	-1.1	+20.3	+0.3	+19.4	-.30	+8.6	+6.8	- 5	- 3	-20
Rhode Island	+2.9	+ 1.6	-2.6	- 2.8	+1.4	+29.1	-.13	-8.0	-1.5	- 8	-14	+15
Vermont	+0.8	+ 0.1	-1.4	+12.4	+1.3	+20.0	-.32	+2.3	-0.1	-10	-16	+21
MIDDLE ATLANTIC												
New Jersey	-2.0	- 4.6	-3.0	+ 3.6	-1.0	+ 2.3	+0.7	-4.2	-4.4	-11	+11	- 1
New York	-5.1	- 9.8	-1.9	- 1.6	+0.2	+18.9	+0.6	-8.1	-8.5	-21	+ 2	+52
Pennsylvania	-8.1	-11.7	-2.3	+ 6.2	-0.7	+17.1	+0.2	-6.5	-6.4	- 1	- 6	- 4
EAST NORTH CENTRAL												
Illinois	-4.6	- 6.1	+0.1	- 3.2	-0.1	+ 4.3	+0.5	-5.2	-7.5	- 2	+14	- 8
Indiana	-4.2	- 6.1	+0.6	- 1.1	-0.6	+ 2.9	-.06	-3.8	-6.3	0	- 2	-18
Michigan	-4.8	- 6.9	-0.4	+ 1.4	-0.1	- 8.9	+0.4	-3.6	-6.6	0	+ 1	+ 1
Ohio	-6.9	- 9.5	-0.3	+ 2.1	-0.6	+ 1.0	+0.3	-6.0	-8.4	- 5	+ 2	-20
Wisconsin	-6.3	- 8.6	-0.7	+ 7.1	+0.2	- 9.7	+0.4	-1.1	-3.2	+ 1	- 7	+20

(continued on next page)

Table 8 (continued)

	(1) Percentage change in 15-24 year old population, 1980-1990	(2) Percentage change in 15-24 year old population, 1980-1995	(3) Birthrate per 1000, 1977	(4) High school graduation, rate, 1977	(5) Attendance rate in college, full-time equivalent enrollment/ state popu- lation, 1977	(6) Private full-time equivalent enrollment as percentage of total full-time equivalent enrollment, 1976-1977	(7) Home-state students as percentage of enrolled students	(8) Percentage change in population, 1970-1977	(9) Percentage migration of population, 1970-1977	(10) Percentage increase in per capita income, 1969-1978 (current \$)	(11) Tax Capacity Index, 1975	(12) Tax Effort Index, 1975
WEST NORTH CENTRAL												
Iowa	- 7.5	-10.2	+ 0.4	+ 5.4	-0.1	+ 7.5	-0.06	- 4.5	- 5.4	+17	+ 3	- 8
Kansas	- 4.9	- 5.3	- 0.4	+ 2.3	+0.3	-10.5	-0.01	- 3.0	- 4.5	+12	+ 5	-15
Minnesota	- 8.0	-10.2	- 0.1	+10.9	-0.1	+ 0.8	0	- 2.0	- 4.2	+ 8	- 2	+15
Missouri	- 5.1	- 5.6	+ 0.4	+ 1.1	-0.3	+ 6.9	0	- 3.8	- 4.1	0	- 6	-15
Nebraska	- 3.7	- 3.3	+ 1.0	+ 8.9	+0.3	- 4.0	-0.03	- 1.3	- 4.1	+ 4	+ 3	-14
North Dakota	- 8.0	- 8.2	+ 3.3	+ 7.2	+0.6	-16.8	-0.02	- 0.6	- 4.9	+26	- 1	- 6
South Dakota	- 8.4	- 8.4	+ 1.8	+ 6.6	0	+ 6.0	-0.08	- 3.0	- 6.3	+21	- 9	-10
SOUTH ATLANTIC												
Delaware	- 4.1	- 5.2	- 0.3	+ 4.4	+0.3	- 8.6	-0.11	- 0.3	- 2.6	-12	+22	-14
District of Columbia	—	- 8.6	+14.6	-24.1	+5.0	+59.8	-0.55	-15.2	-16.4	+13	+20	+ 3
Florida	+13.1	+17.9	- 2.3	- 1.5	-0.7	- 3.7	0	+18.1	+18.9	+ 6	- 2	-20
Georgia	+ 9.2	+10.6	+ 1.7	- 6.8	-1.0	- 3.3	-0.04	+ 3.6	- 0.2	+ 3	-12	-15
Maryland	+ 0.4	- 1.0	- 3.7	- 0.3	-0.3	- 9.1	-0.02	- 0.9	- 2.1	- 3	+ 2	+ 9
North Carolina	+ 5.8	+ 6.2	0	- 3.8	0	0	-0.02	+ 2.3	- 0.7	+ 5	-16	-12
South Carolina	+ 7.1	+ 8.8	+ 1.3	- 2.6	-0.3	- 0.2	+0.03	+ 4.6	+ 0.1	+13	-23	-13
Virginia	+ 3.3	+ 3.6	- 1.5	- 1.2	-0.3	- 8.1	-0.06	+ 4.0	+ 1.3	+10	- 7	-12
West Virginia	+ 0.3	- 0.1	+ 1.0	- 1.7	-0.7	- 8.4	-0.06	+ 0.2	- 2.0	+25	-10	-15
EAST SOUTH CENTRAL												
Alabama	+ 0.4	+ 0.2	+ 1.2	- 6.6	-0.2	- 9.8	0	+ 0.7	- 2.2	+17	-22	-19
Kentucky	+ 2.7	+ 3.5	+ 1.9	- 6.7	-0.8	- 6.7	-0.01	+ 1.0	- 1.2	+15	-10	-16
Mississippi	+ 2.2	+ 2.3	+ 3.6	-12.4	-0.4	-13.1	+0.06	+ 1.4	- 3.5	+21	-30	- 5
Tennessee	+ 1.8	+ 1.7	+ 0.9	- 6.5	-0.4	+ 2.9	-0.04	+ 2.9	+ 0.2	+12	-18	-19

Table 8 (continued)

	(1) Percentage change in 15-24 year old population, 1980-1990	(2) Percentage change in 15-24 year old population, 1980-1995	(3) Birthrate per 1000, 1977	(4) High school graduation, rate, 1977	(5) Attendance rate in college, full-time equivalent enrollment/ state popu- lation, 1977	(6) Private full-time equivalent enrollment as percentage of total full-time equivalent enrollment, 1976-1977	(7) Home-state students as percentage of enrolled students	(8) Percentage change in population, 1970-1977	(9) Percentage net migration of population, 1970-1977	(10) Percentage increase in per capita income, 1969-1978 (current \$)	(11) Tax Capacity Index, 1975	(12) Tax Effort Index, 1975
WEST SOUTH CENTRAL												
Arkansas	+ 3.8	+ 4.7	+ 0.8	- 2.2	-1.2	- 8.1	0	+ 5.1	+ 2.9	+16	-22	-21
Louisiana	- 4.0	- 1.9	+ 3.9	- 6.4	-0.6	- 9.5	+0.01	+ 1.2	- 2.9	+20	+ 3	-19
Oklahoma	+ 3.5	+ 5.7	+ 0.2	+ 3.0	+0.3	- 8.3	-0.02	+ 3.4	+ 1.5	+16	+ 2	-29
Texas	+ 7.7	+11.0	+ 2.9	- 3.9	0	- 9.7	+0.05	+ 8.2	+ 3.1	+20	+13	-32
MOUNTAIN												
Arizona	+15.4	+21.7	+ 2.8	- 0.6	+1.5	-19.9	-0.13	+22.9	+17.5	+ 8	- 7	+10
Colorado	+ 5.7	+ 8.7	+ 1.2	+ 6.3	+0.8	-13.8	-0.12	+12.9	+ 8.2	+14	+ 4	- 4
Idaho	+ 9.2	+12.8	+ 5.9	+ 8.3	-0.1	- 1.0	-0.15	+12.1	+ 6.8	+18	-13	- 5
Montana	- 2.3	- 0.7	+ 1.8	+ 6.2	-0.4	-14.1	-0.03	+13.9	+ 0.5	+ 2	- 2	- 4
Nevada	+12.1	+13.8	+ 0.5	+ 6.8	-1.0	-22.7	-0.03	+ 3.2	+19.8	+ 7	+51	-30
New Mexico	+ 2.8	+ 5.3	+ 3.6	+ 0.3	-0.3	-16.6	-0.06	+23.2	+ 4.1	+17	- 7	-12
Utah	+14.7	+21.1	+15.2	+ 7.3	+1.8	+13.8	-0.17	+13.3	0	+ 9	-14	- 9
Wyoming	+ 4.2	+ 5.9	+ 3.6	+ 6.3	-0.4	-23.6	-0.12	+15.8	+10.1	+35	+47	-27
PACIFIC												
Alaska	+12.7	+15.0	+ 5.0	-10.7	-1.0	-19.2	+0.11	+28.2	+23.7	+41	+43	+ 9
California	+ 2.0	+ 2.7	+ 0.5	- 2.4	+1.1	-11.1	+0.03	+ 3.2	+ 0.9	- 1	+10	+21
Hawaii	+ 6.8	+ 9.0	+ 3.6	+ 8.2	+0.5	-14.8	-0.08	+ 9.8	+ 1.1	-10	+ 9	+20
Oregon	+ 3.3	+ 4.9	+ 0.8	+ 2.2	+0.6	-10.4	-0.04	+ 7.2	+ 5.5	+17	- 2	- 1
Washington	- 0.3	- 0.7	+ 0.2	+ 2.1	+0.9	-11.6	+0.04	+ 0.8	- 0.2	+ 3	0	+ 1

*For example, the percentage change in Connecticut in the 15-24 year old population between 1980 and 1990 is -23.7. Since the change for the U.S. is -16.4%, the figure for Connecticut in column (1) is calculated as $(-23.7) \text{ less } (-16.4) = -7.3$. For New Hampshire, the percentage change in the 15-24 year old population between 1980 and 1990 is -11.9. The figure in column (1) is calculated as $(-11.9) \text{ less } (-16.4\%) = +4.5$. In column (10) the U.S. increase in per capita income is an index to which state changes are related. The actual increase for the nation over this period was 114 percent.

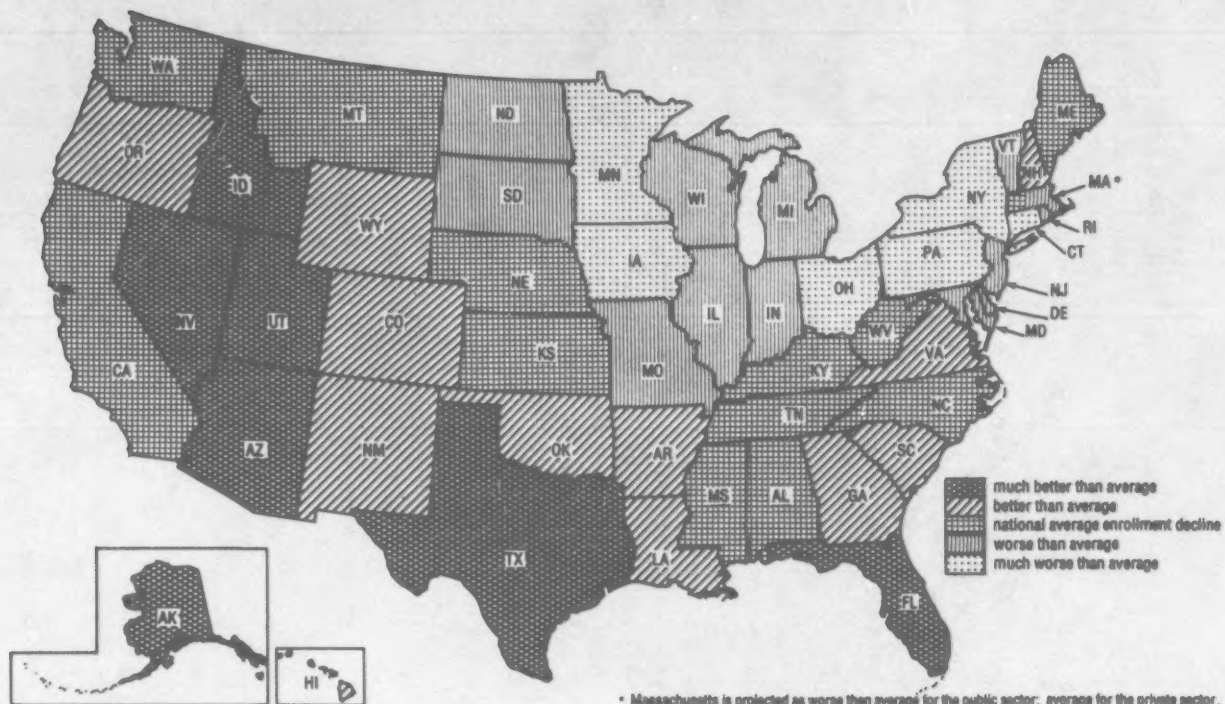
(continued on next page)

Table 8 (continued)

Sources and Notes: Columns (1) and (2): Population estimates of the U.S. Bureau of Census (1979). Column (3): U.S. Department of Health, Education, and Welfare (1979). Columns (4) and (7): U.S. National Center for Education Statistics (1978b). Column (5): U.S. National Center for Education Statistics (1978c; 1978d). Columns (6), (8), and (9): U.S. Bureau of Census (1978). Percentage net migration of population is estimated as those coming in minus those leaving as percentage of the 1970 population. Column (10): U.S. Department of Commerce (1979). Columns (11) and (12): Tax Capacity is a measure of the total taxable resources per capita in the state under a uniform representative tax system. The Tax Effort index is a measure of the taxes raised per capita relative to the capacity. Positive numbers in column (11) indicate a larger than average fiscal capacity under the uniform representation tax system. Positive numbers in column (12) indicate a larger than average effort, given the capacity of the state. See Halstead (1978).

Explanations: Positive figures in columns 1, 2, 3, 8, 9, 10, 11, and 12 indicate demographic and financial trends that would be expected to have a positive effect on enrollment trends, i.e., lessen the decline relative to the average for the U.S. as a whole. In columns 4 and 5, negative figures would have a positive effect on enrollment trends, because it was assumed that high school graduation and attendance rates were likely to rise if the present rates are below the national averages. Positive figures in column 6 were also considered a negative influence unless a significant proportion of the private enrollment is in elite institutions, as in Massachusetts. Column 7 measures the percentages of those enrolled who are studying in their home state. The lower this figure, the less important are the specific trend factors for this state in determining the group in which this state is likely to fall.

Figure 13. Carnegie Council Projected Enrollment Trends in the 1990s Relative to the National Average



Source: Carnegie Council estimates.

Gainers and Losers

Future enrollment patterns will vary widely from campus to campus as they have during the past decade. Among institutions reporting figures for both 1970 and 1978⁹, we found both gainers and losers: 59 percent registered increases, 12 percent remained stable (shifts in the range of -5 to +5 percent), and 29 percent lost FTE enrollment. Most of the enrollment gains were substantial, with over one-half of the 1,250 gainers reporting FTE increases in the 20 to 100 percent range and another 15 percent showing gains of more than 100 percent. The public two-year colleges were heavy gainers. The less selective liberal arts colleges, the two-year private colleges, and the public doctorate-granting institutions were among the more frequent losers. The research universities were the most stable. An overview of institutional gainers and losers and other changes during the 1970s is presented in Tables 9 and 10.¹⁰

The significant enrollment growth of the 1970s was also evident in the 111 new collegiate institutions that appeared, mostly in the public sector.¹¹ Seventy-eight two-year institutions, 24 less-selective liberal arts campuses, and 9 comprehensive colleges and universities opened. Of the 33 four-year colleges opening their doors from 1970 to 1978, 11 were considered especially successful because they continued to exist in 1978 and enrolled more than 1,000 students in that year. Ten of what we have identified as new successes are comprehensive colleges and universities and one is a liberal arts college.¹²

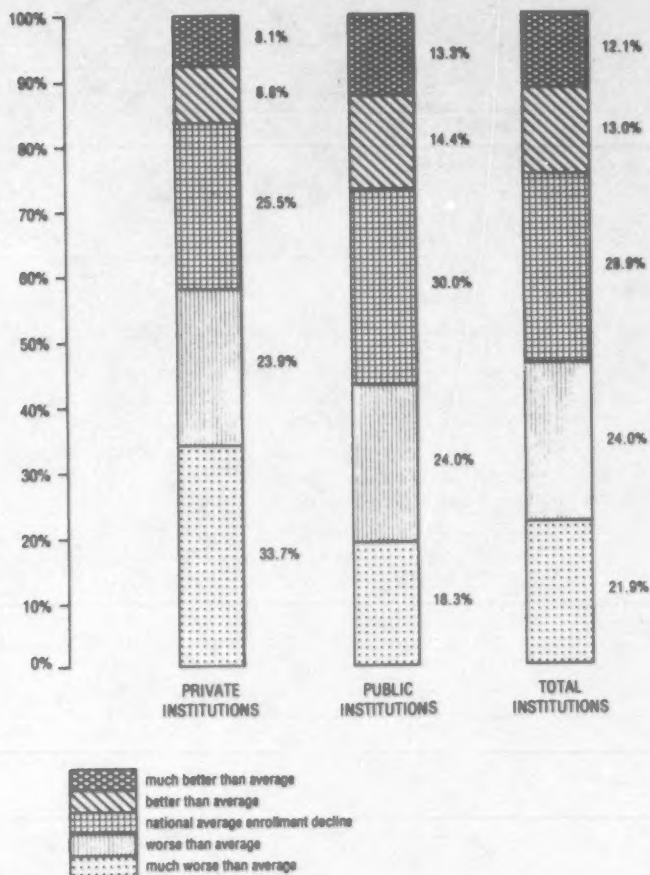
⁹Note that institutions not reporting enrollments for both years (often because they opened or closed during the 1970-1978 period) could not be included.

¹⁰These developments are explored in more detail in Supplement D, *Gainers and Losers Among Institutions of Higher Education*.

¹¹There were also increased numbers of specialized and nontraditional institutions, mostly private, which are not included in the overall number of institutions reported here. These numbered 423 in 1970, increasing to 566 in the 1976 Carnegie Classification.

¹²The list includes Texas Eastern University, University of Houston campuses at Clear Lake City and Downtown, and Corpus Christi University; Liberty Baptist College (private) in Virginia; Francis Marion College in South Carolina; Metropolitan State University in Minnesota; the University of Maine—Portland-Gorham; the University of Alaska-Anchorage; National University (private) in California; and the only liberal arts college, Touro College (private) in New York.

Figure 14. Percentage distribution of private, public, and total full-time equivalent enrollment in states classified by relative enrollment changes in the 1990s (as in Figure 13)



Source: Carnegie Council estimates.

Table 9. Summary of institutional gains, losses, and other changes, 1970-1978

	Total		Public		Private	
	Number (Percent)		Number (Percent)		Number (Percent)	
FTE enrollment changes ^a						
Gainers	1256	(59)	771	(68)	485	(48)
Losers	630	(29)	236	(21)	394	(39)
Stable ^b	259	(12)	129	(11)	130	(13)
Institutional changes						
Openings	111		80		31	
New successes ^c	11		8		3	
Closures	107		15		92	
Mergers	68		41		27	
Shifts in control	11					
Private to public					11	

^a Enrollment changes could be analyzed only for those 2,145 institutions that reported enrollment in 1970 and 1978, so that 249 institutions that opened, closed, or otherwise did not report for both years are not included.

^b Stable enrollment was defined as changes no greater than plus or minus 5 percent.

^c New successes are defined as four-year institutions opening in 1970 or later and reporting headcount enrollment of 1,000 or more in 1978.

Sources: Carnegie Council staff analysis based on (U.S. National Center for Education Statistics) NCES, *Education Directory, Colleges and Universities, 1970-1971 to 1978-1979* and NCES, *Opening Fall Enrollment, 1970 and 1978*.

Table 10. Institutional changes, 1970-1978
(Institutions as classified in the Carnegie Classification of 1970)

Carnegie Classification (Number in 1970)	Percentage of Institutions				
	FTE enrollment changes ^a			Openings ^b	Closures, mergers, and shifts in control ^b
	Gainers	Losers	Stable		
Total (2,394)	58.6	29.4	12.1	4.6	7.9
Public (1,250)	67.9	20.8	11.4	6.4	4.6
Private (1,144)	48.1	39.0	12.9	2.8	11.4
Research					
Universities (92)	54.9	19.8	25.3	0	0
Public (57)	57.1	16.1	26.8		
Private (35)	51.4	25.7	22.9		
Doctorate-granting					
Universities (81)	48.8	35.0	16.3	0	0
Public (52)	44.0	40.0	16.0		
Private (29)	56.7	26.7	16.7		
Comprehensive					
Universities and					
Colleges (449)	45.2	37.8	17.0	2.0	1.8
Public (304)	47.5	36.9	15.6	2.6	2.0
Private (145)	40.4	39.7	19.9	0.7	1.4
Liberal Arts					
Colleges I (145)	51.8	29.5	18.7	0	3.4
Public (2)	50.0	0	50.0		0
Private (143)	51.8	29.9	18.2		3.4
Liberal Arts					
Colleges II (573)	48.6	41.2	10.2	4.4	12.2
Public (30)	82.6	8.7	8.7	10.0	6.7
Private (543)	47.0	42.7	10.3	4.0	11.3
Two-Year Colleges					
(1,054)	73.1	18.9	8.0	7.4	11.5
Public (805)	78.5	13.5	8.0	8.6	7.1
Private (249)	52.0	40.2	7.8	3.6	23.9

^aEnrollment changes could be analyzed only for those 2,145 institutions which reported enrollment in 1970 and 1978, so that 249 institutions which opened, closed, or otherwise did not report for both years are not included.

^bPercentages calculated from the number of institutions in each category in 1970.

Source: Carnegie Council calculations from U.S. NCES (1970; 1979d) data.

The boom years of the 1960s also gave rise to many new institutions, 66 of which were four-year institutions still drawing over 1,000 students each in 1978. This number includes campuses added to expanding state systems, particularly in California, Alabama, Florida, Texas, and New York, as well as notable new successes in the private sector, such as Oral Roberts University. Not included in this number are separate medical centers, law schools, other specialized campuses, and nontraditional institutions, such as SUNY's Empire State College. In addition, some 400 public community colleges were started in the 1960s with more than 1,000 students in 1978.

The number of institutions that ceased to exist in their original form was substantial; 107 closed, 68 merged, and 11 changed from private to public control. Only 15 of the closed institutions were under public control, all at the two-year level, and 12 of these were two-year teachers' colleges in Wisconsin, which were closed in 1971-1973 because state licensing requirements were increased. Of the remaining three public colleges that closed, one was a two-year branch campus that lost enrollment when a new community college opened nearby with lower tuition; the second was totally funded by local revenues, and the limited local tax base was unable to continue support for the institution. The third burned down. All of the remaining 92 closures were under private control, about equally divided between less-selective liberal arts and two-year colleges. Mergers, although less frequent, were a substantial source of change. Forty-one public institutions, mostly two-year colleges, including several two-year branches of four-year institutions, merged. The 27 private schools merging were mostly less-selective liberal arts campuses. Catholic colleges were hard hit: 48 closed or merged, and only 3 opened. Among similar Protestant colleges, 18 closed or merged, and 4 opened. Whether religiously affiliated or not, closed institutions were more prevalent in urban areas than in rural, by 2 to 1. The smaller urban colleges were the more vulnerable, perhaps because they were less competitive with the wide range of low-cost educational options in the cities.

Many institutions have undergone changes sufficient to warrant reclassification under the Carnegie typology. Of the 2,394 colleges and universities that were classified in 1970, excluding outlying areas, 278 (11.6 percent) were classified differently in 1976. As

Table 11. Shifts in Carnegie Classifications, 1970-1976

Classification in 1976												
Classification in 1970 (Number)	Number changing by 1976	Research Univer- sities I	Research Univer- sities II	Doctorate- granting Universities I	Doctorate- granting Universities II	Comprehen- sive Univer- sities and Colleges I	Comprehen- sive Univer- sities and Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II	Two-Year Colleges	Theological Seminaries	Other ^a Specialized
Private Institutions												
Research Universities I (22)	1	—	1	—	—	—	—	—	—	—	—	—
Research Universities II (13)	3	1	—	2	—	—	—	—	—	—	—	—
Doctorate-granting Universities I (19)	5	—	3	—	1	1	—	—	—	—	—	—
Doctorate-granting Universities II (10)	3	—	—	1	—	2	—	—	—	—	—	—
Comprehensive Univer- sities and Colleges I (98)	9	—	—	—	3	—	6	—	—	—	—	—
Comprehensive Univer- sities and Colleges II (47)	14	—	—	1	—	5	—	—	6	—	—	2
Liberal Arts Colleges I (143)	38	—	—	—	—	5	14	—	17	—	1	1
Liberal Arts Colleges II (544)	122	—	—	—	—	16	49	27	—	1	20	9
Two-Year Colleges (249)	15	—	—	—	—	—	—	—	9	—	3	3
Public Institutions												
Research Universities I (30)	3	—	3	—	—	—	—	—	—	—	—	—
Research Universities II (27)	2	2	—	—	—	—	—	—	—	—	—	—
Doctorate-granting Universities I (34)	8	—	5	—	3	—	—	—	—	—	—	—
Doctorate-granting Universities II (18)	7	—	—	7	—	—	—	—	—	—	—	—
Comprehensive Univer- sities and Colleges I (220)	22	—	—	2	6	—	14	—	—	—	—	—

(continued on next page)

Table 11 (continued)

Public Institutions (continued)											
Classification in 1970 (Number)	Number changing by 1976	Classification in 1976									
		Research Univer- sities I	Research Univer- sities II	Doctorate- granting Universities I	Doctorate- granting Universities II	Comprehen- sive Univer- sities and Colleges I	Comprehen- sive Univer- sities and Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II	Two-Year Colleges	Theological Seminaries Other ^a Specialized
Comprehensive Univer- sities and Colleges II (85)	1	—	—	—	—	1	—	—	—	—	—
Liberal Arts Colleges I (2)	2	—	—	1	—	—	1	—	—	—	—
Liberal Arts Colleges II (30)	6	—	—	—	—	2	4	—	—	—	—
Two-Year Colleges (805)	6	—	—	—	—	1	2	—	2	—	—
Changes from Private to Public Control											
Private Classification in 1970 (Number)	Number changing by 1976	Public Classification in 1976									
		Research Univer- sities I	Research Univer- sities II	Doctorate- granting Universities I	Doctorate- granting Universities II	Comprehen- sive Univer- sities and Colleges I	Comprehen- sive Univer- sities and Colleges II	Liberal Arts Colleges I	Liberal Arts Colleges II	Two-Year Colleges	Theological Seminaries Other ^a Specialized
Comprehensive Univer- sities and Colleges I (98)	1	—	—	—	—	1	—	—	—	—	—
Liberal Arts Colleges I (143)	1	—	—	—	1 ^M	—	—	—	—	—	—
Liberal Arts Colleges II (544)	3	—	—	—	1 ^M	—	1	—	1	—	—
Two-Year Colleges (249)	6	—	—	1 ^M	—	—	—	—	—	5	—

^aThis group includes medical schools and medical centers; other separate health professional schools; schools of engineering and technology; business and management; art, music and design; law; teachers' colleges; and other specialized institutions.

M=Merger of private institution with public institution. (In these cases, the private institution's Carnegie type changes to the Carnegie type of the public institution with which it merges.)

Source: Carnegie Council calculations from U.S. NCES (1970; 1978a).

shown in Table 11, nearly 80 percent of the changes occurred among private institutions. Private liberal arts II colleges were most affected with 122 shifting classification; 3 out of 4 moving to the liberal arts I or comprehensive categories, and the rest shifting to two-year or specialized categories. Among the private liberal arts I colleges, 38 changes were recorded—19 became comprehensive colleges and universities, 17 changed to the less-selective liberal arts category, and 2 were reclassified as specialized schools.

Among public institutions, the comprehensive colleges and universities I were the most frequently affected by reclassification: 22 shifts occurred—8 into the doctorate-granting universities classification, and 14 became Comprehensive Universities and Colleges II.

Eleven private institutions changed to public control from 1970 to 1978 (6 two-year, 3 highly selective liberal arts, 1 less-selective liberal arts, and 1 comprehensive college), representing a small but important loss to the private sector.

Summary. At least 95 percent of all campuses underwent some significant change in the 1970s: they gained or lost enrollment, or opened or closed, or merged, or shifted to public control, or changed classification. Alteration of condition or status was almost universal; continuation of the status quo almost nonexistent. Campuses moved up and down, in and out, and sideways. Transformation was the rule; uniformity of condition the exception. The totality of shifts were generally most favorable for the public community colleges; and least favorable for the private less-selective four-year liberal arts colleges and private two-year colleges; but there were many exceptions. Each campus has had its own individual recent history; and is likely to have its own individual near future. Institutions of higher education have been riding off in all directions and will probably continue to do so: 3,000 different institutions face 3,000 different futures.¹³

¹³We use the figure 3,000 here to cover the total universe of institutions, including theological seminaries and other specialized institutions and nontraditional institutions (about 600), because changing conditions affect them as they do the approximately 2,400 institutions which we have analyzed above.

Implications of the Demographic Depression for Faculty

The situation of faculty members has generally been deteriorating for at least the past five years and may continue to do so in important regards for another decade or more.

Faculty compensation rose in real terms for the first 70 years of the twentieth century.¹⁴ It has dropped now for the past decade. Faculty compensation in the 1960s not only gained on the cost of living but also on the average compensation of all civilian full-time employees. For the past few years, faculty members have been losing both relatively and absolutely in terms of their real compensation.

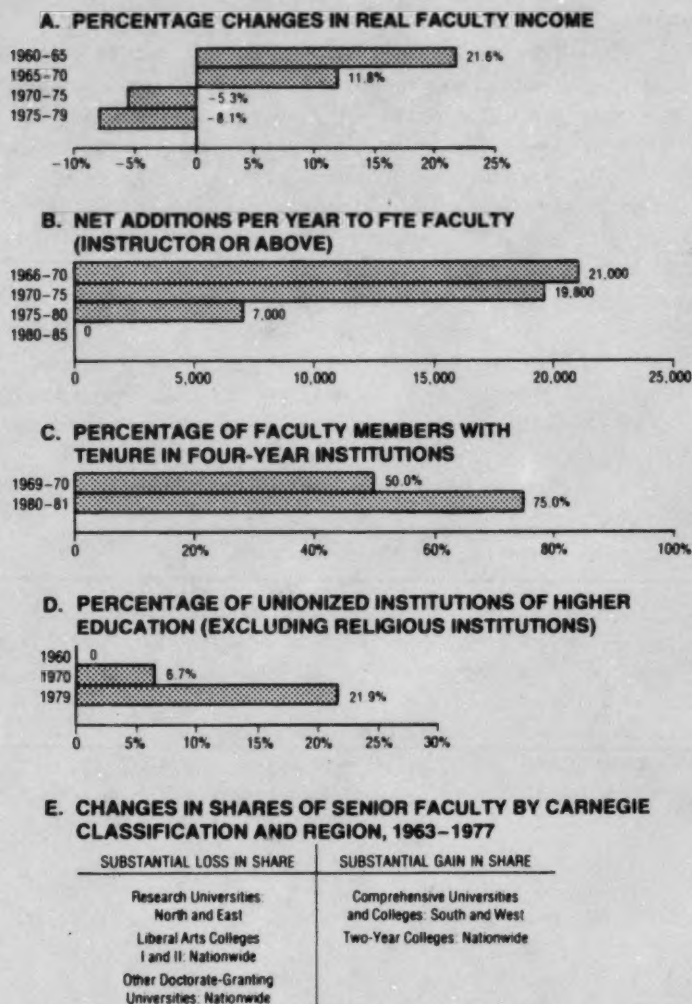
The labor market for faculty members has virtually collapsed in all but a few still active fields. At the peak of its activity, additions to the professoriate were being made at the rate of 20,000 and more per year. The current level of net additions is about zero and will remain at that level or below it for much of the rest of this century. If student-to-faculty ratios should keep on rising (say by 10 percent) on top of the rise of more than 10 percent in recent years, then the size of net reductions of the professoriate may become quite substantial. There will, of course, be some replacement needs for faculty members retiring, dying, or quitting the profession, but retirement rates will be low until the end of the century, given the age structure of the faculty.

The labor market consequences are most intense for young persons looking for their first jobs, for junior faculty seeking tenure, for temporary faculty kept in temporary status at college after college, for faculty members who would like to move from one institution to another but find no openings. Women and minorities were entering faculty status in significant but still insufficient numbers in the 1970s, and their prospects are diminished for most of the next two decades. Some faculty members with tenure now face dismissal; some colleges will close.

The tenured professoriate in four-year colleges will keep on aging with the ages of the modal group rising from 36 to 45 in 1980 to 56 to 65 in 2000 (see Figure 5). This will increase the age gap between students and faculty, raise the average cost of faculty salaries, and make it hard to introduce new fields, new courses, new subject

¹⁴For these and other data, see Supplement H, *Faculty Development Present and Future*. See also Figure 15.

Figure 15. Selected developments and projections affecting faculties



Sources: A: Bowen (1979). B: U.S. NCES (1978, p. 68) and Carnegie Council staff projections. C: Carnegie Council Survey of Faculty, 1969, and Carnegie Council staff projections cited in source B, above. D: Garbarino (forthcoming). E: Estimates prepared by the Carnegie Council staff based on NCES data on enrollment, faculty-student ratios, and number of employees of institutions of higher education.

matter. Tenure ratios, which were 50 percent as recently as 1969, have now risen to 75 percent; and colleges encounter new rigidities in redeploying their resources.

One consequence of all this has been a rise in collective bargaining. It was almost nonexistent in 1960. Its introduction was largely confined to two-year colleges during the 1960s, but, in the 1970s, it was extended significantly to four-year institutions also. Now, about one-fifth of all institutions are covered, and 24 states support in their laws collective bargaining by faculty members in public institutions. Collective bargaining, with potentially substantial impacts on traditional forms of academic governance, is encouraged by falling real income, threats of reductions in personnel, and the pressure for affirmative action.

The changes in the location of faculty members are startling. In 1963, 1 faculty member in 10 was in a two-year college; now it is 1 in 5. Faculty members of liberal arts colleges accounted for about 1 in 6 of all faculty members in 1963, and now for only 1 in 12.

Some faculty members are potentially much more affected than are others:

In the East and North more than in the South and West
In comprehensive colleges more than in community colleges; in
less-selective more than in more-selective four-year liberal
arts colleges; in doctorate-granting universities more than in
research universities
In the humanities more than in the professions
In nontenured more than in tenured ranks
In closing and merging institutions more than in continu-
ing ones.

The fate of faculties is intimately tied to the fate of their current institutions, since so few faculty members will have the opportunity to move elsewhere.

While students are likely to be advantaged, faculty members, by and large, can only be disadvantaged by the demographic depression. But the impacts will be quite varied, from some loss of real income to total loss of employment.

5

Anticipating the Next Two Decades

The next two decades will bring many changes. They will differ, as we have just noted, institution by institution. How might an institution think about its future?

The future is not fully determined in advance. It will be substantially affected by what institutions and individuals decide to do. Thus, it is important to have goals to achieve. What contributions can higher education make over the next two decades?

The nation, as a whole, may move in substantially new directions. What may be the roles of higher education as the nation itself changes?

Thinking About the Future

Looking ahead is a risky endeavor. Speculations about the future, however, can be useful. They can encourage others, particularly at the levels of the states and of systems of higher education and of individual institutions to:

Think about what is already largely determined, as for example:

- The sizes of the age cohorts that contribute to enrollments
- The faculty
- The buildings
- The universe of competitive institutions
- The methods of governance
- The accumulated heritage of the centuries.

Think about what is likely but not certain to change, as for example:

A more favorable labor market for young persons and a higher rate of return on their investments in a college education

The further professionalization of American society

Greater family affluence and more second-generation college students

Tougher competition from the military to get youth into service

Greater competition for the public funds that now support higher education.

Think about what might happen, both for the better and the worse, that is now unknown, as for example:

Great new technological advances

A major war

A major depression

Continuing high-level inflation.

Think about the tools at hand, such as:

Policies

Leadership.

And think how individual institutions may react to these developments and possibilities:

What is threatened that is worth preserving, and what is possible that is new and worth developing? What are the comparative advantages of the institution? What can it do best?

To what extent can the future be planned? What are the areas of self-determination? What contingency planning should be undertaken?

What new institutional policies should be developed?

What public policies should be supported?

Looking ahead is not just a matter of curiosity. It is also a matter of effective adaptation—Hegel once wrote that “Hell is truth seen too late.” Looking ahead is also a matter of leadership, of trying to seize hold of the future and to guide it, and not just to react to what otherwise will happen.

Two decades quite different from the two just past now confront higher education. They appear to offer fewer dramatic possibilities for constructive action. But, like the last two decades, what happens will be the result of external forces and internal choices.

The great external forces in the last two decades were the

domestic consequences of Sputnik, the "tidal wave" of students that followed on the "baby boom" after World War II, the new affluence, the civil rights revolution, the war in Vietnam, and the student movement reflecting the impact of the latter two. Only one of these—the tidal wave of students—was seen in advance.

Only one great new force in the forthcoming two decades can now be identified: the demographic depression for higher education. But we can be certain that there will be others. Possible candidates are substantial inflation,¹ a full depression, another war, a deepening energy crisis, rising internal political unrest—all "bad." Or, perhaps there will be a new era of "good feeling" consequent upon a new and more buoyant generation of youth,² a great wave of technical inventions and innovations, and there may be other "good" surprises. The one certainty, however, is uncertainty.

Higher education in the last period was not just a plaything of the external environment. Nor need it be in the next. Decisions³ were made the last time around that were very consequential, including:

The move toward open-access higher education, particularly through expansion of community colleges

The continued concentration of new basic science programs in the universities

The shift of teachers' colleges to comprehensive colleges and universities

The introduction of vast new student aid programs at the federal level

¹For the unfavorable impacts of inflation on colleges, see Harris (1970, chap. 54).

²See Easterlin (1978). See also his discussion of "demographic waves" in *Population, Labor Force and Long Swings in Economic Growth* (1968). Easterlin argues that, because of a declining birth rate since about 1960, the U.S. is entering a new period of growing scarcity of young adults, similar to that of the 1940–1960 period. Consequently, the 1980s should see a turnaround of some of the social, political, and economic conditions, for example, rising unemployment, increased divorce and crime rates, that have been results of demographic patterns rather than of a hardening social malaise, as is often asserted.

³We contrast decisions made by authorities within higher education and outside it but with responsibility for its welfare—including coordinating councils, governors, federal agencies, legislatures, the federal Congress, and The President—with broad external forces outside the control of these decision makers. We contrast human choice with implacable necessity.

The introduction of affirmative action for minorities and women
 The predominantly ad hoc response to the student movement,
 containing it and channeling it rather than confronting it or
 embracing it

The clarification and preservation of differentiation of functions
 among different types of institutions

The perpetuation of the private college in general and of colleges
 founded for blacks in particular

The continuation of a system of higher education with major
 reliance on state support and control.

Other choices were available and even considered, and sometimes strongly argued in each case—as was federal support for institutions as such rather than for students. None of these choices was enforced by the external environment. Other societies, faced by somewhat similar problems, usually, in fact, made different choices.

No other nation so embraced open-access higher education. Only Norway and Yugoslavia chose to expand enrollments via their versions of community colleges. The United Kingdom more abandoned than converted its teachers' colleges. Most national governments chose to aid institutions as such rather than to concentrate financial support on students as our federal government decided to do. Other nations often either put down the student movement (Japan) or embraced it into academic governance through uniform laws (Germany and Holland) or some of both (France). Several nations, Italy and Sweden (the U68 reforms) in particular, responded to enrollment increases by opening their elite institutions to mass enrollments rather than by choosing the route of differentiation of functions.

Choices will need to be made again.

In the United States last time, there were some surprises along the way with great specific impacts on higher education: the war in Vietnam and the rapid decline in the fertility rate (not generally apparent and recognized until about 1965 or later)⁴ were among them. Now there are some wild cards that may or may not be played and, if they are played, we do not know when they will be played or how:

⁴The rates changed as follows: 1955-1959—3.7 percent; 1960-1964—3.5 percent; 1965-1969—2.6 percent; 1970-1974—2.1 percent; 1975-1979—1.8 percent.

- Will there be a major new student movement? When may it arise? What may be its themes? What directions may it pursue? It seems possible, looking at recurrent student movements (particularly since 1900), that there might be another such movement between 1980 and 2000 but, again looking at past history, its form and purpose are likely to be quite different from the last.
- How far will the new electronic technology develop? How much will it affect higher education? How much will it take place outside higher education? Video discs and cassettes are now becoming available. The Carnegie Commission (1972) once predicted that electronic presentations would penetrate significantly into lower division instruction and into the operation of libraries as learning resource centers, and substantially into extension courses by 2000.⁵ The "Fourth Revolution" thus far is less spectacular than the Commission expected it to be. It is occurring unevenly in different institutions and in departments within institutions. It is taking place, but it does so with little fanfare and has not been closely monitored. To a large extent it has remained experimental. But it may now be ready for its "take-off" period. A study by the Corporation for Public Broadcasting and the National Center for Education Statistics, for example, showed that 86 percent of the state and land-grant colleges and universities, 64 percent of the two-year colleges, and 50 percent of the private colleges responding to the survey reported that they used television for on- and off-campus instruction ("Colleges make Big Use of Television, Study Shows," 1979, p. 3).
- Will there be further internal enrollment shifts, such as the recent shift of student majors to vocational and professional subjects, and what impacts will this have on the composition of faculties?
- What will be the new military recruitment policy? Eligible youths will be in scarce supply. Will the military turn to the draft, and, if so, who will be exempted? Will it rely on inducements for volunteers, and, if so, how large a role will educational benefits play? Military recruitment policy, whatever it may be, will have a major impact on the distribution and conduct of youths.
- To what extent will other organizations—museums, government

⁵See also the suggestion of Mood (1973) for utilization of video cassettes, national broadcasting of standard courses, and the like.

agencies, the military services, corporations—offer higher education? We have identified these organizations as the Third Sector that is opening up in postsecondary education. Corporate activity at the graduate level, in particular, is expanding rapidly.

- What will national and local policies be on taxation and on expenditure patterns? Will the Proposition 13 mentality and the tax limitation movement spread geographically and deepen their roots? What will be the priorities for expenditures? Where will higher education rate among them?
- What will happen to private rates of return on a college education, to opportunities in the labor market, and to levels of employment, and how will these affect attendance in higher education and the types of programs followed within higher education?
- What changes may there be in the directions of national youth policy?

We cannot know in advance what the great external uncertainties will be, only that there will be some. We also cannot know how and when the above and other possible wild cards will be played. We do know, however, that higher education and the agencies directly responsible for its welfare will have choices to make. We discuss some of these choices in Section 6.

Setting Goals for the Future

We need to have some idea of where we would like to be 20 years from now in higher education if we are to guide our own future. Twenty years ago, in 1960, views were forming about where higher education should aim during the next 20 years:⁶ at greater strength in science after Sputnik; at accommodating the "tidal wave" of students after

⁶See, for example, McConnell (1962). McConnell thought that planning for the future should be based on the assumption that there would be a much larger, more diverse, and less selective group of students than had previously been accommodated by higher education. Planning, too, should be based on the proposition "that a democratic, industrialized society needs many types and levels of talent and education" (p.46); he urged a "more rationally differentiated" higher education system (p. 51). He saw state coordination of public systems as "inescapable" and believed that: "When the motivation is positive and forward looking, when the purpose is to plan and support a diversified educational system of high quality and to use financial resources efficiently, and when the greatest possible degree of freedom is left to individual institutions, the result should be constructive" (pp. 143-144).

the rise of the birthrate subsequent to World War II; at creating a nationwide network of open-access institutions as was then being done on a statewide basis in California and Florida; at greater equality of opportunity for young persons to attend college regardless of family income, race, or sex; at reforms to meet the needs of the new students; at preparing more medical care personnel to meet the rising expectations for health care. These aims have all been substantially or at least significantly achieved. Their achievement has set the tone of the recent period, made it a Golden Age for higher education. What contributions should higher education be prepared to make in the next two decades?

At least the following contributions by higher education, it now appears, will be needed by the nation in 2000, and generally also in the years in between:

1. *Places to accommodate by 2010 approximately the same number of students as were enrolled in 1978.* It will not make sense in the meantime to substantially reduce capacity only to have to recreate it again in the near future. It will be better to find temporary alternative uses for any excess capacity.
2. *Institutions representing at least the degree of diversity we have today.* The United States is an intricate mosaic of races, ethnic groups, religions, occupational pursuits, styles of life; and is becoming ever more so, at least in occupational pursuits and styles of life. Institutions that pay attention to these diversities will be at least equally needed in the future as in the past.⁷ Also, many students like to go to institutions that have their own personalities and distinctive reputations, that are out of the ordinary. Moreover, distinctiveness is one source of private funds, particularly from alumni—distinctiveness pays.
3. *Resources to impart higher levels of skill attainment than ever before.* The technologies of society keep on advancing, as do the complications in the interconnections of individuals and institutions. In particular, the professional and technical, and the managerial occupational groupings are the fastest growing in the nation. They are dependent for their staffing largely on college-

⁷See Stadtman (forthcoming) for a discussion of changing diversity in higher education.

trained personnel. They now employ one-quarter of the employed labor force, and college graduates are also finding employment as technical sales personnel and in other high-qualifications fields as well. Society will need all the high-level talent it can find, trained to ever-higher levels of competence.

4. *Capabilities for more advanced scientific research.* Deeper scientific knowledge is essential to better health, to new sources of energy, to more productive technology, to more assured national defense. Research is still the "endless frontier" (Bush, 1945). Today it is knowledge that "is the field in which evolution takes place. It is the only thing that can really change. . . . Changes in knowledge are the basic source of all other changes. . . ." (Boulding, 1978, p. 224). In the United States, the university has been the "Home of Science" (Wolfle, 1972) and, by all odds, the most effective home of science anywhere in the world. The place of the United States among the nations of the world will depend at least as much on the scientific advances within its universities as it did after Sputnik. Knowledge must now be ranked, along with land, labor, and capital, as a basic factor of production.

Productivity is dependent both on high skills and also on new technology through research, and each relates to the level and quality of education. Higher productivity will be necessary not only to advancing standards of living, but also to eliminating poverty, to supporting an aging population—one-fifth of the people will be 65 or over in 2025—and to using increasingly scarce raw materials more efficiently.

5. *Capabilities to educate a more active, better-informed, more humanely oriented citizenry.* Our democracy is experiencing a sad decline in the percentage of citizens who vote, just at a time when more issues of grave national concern confront us than at any other time since World War II. Those citizens who have attended college participate more actively in democratic public life,⁸ are better informed about public issues, and are more concerned for

⁸The means now exist to control the lives of most people, the possibility that George Orwell (1949) described in *1984*. But an "enlightened citizenry" can provide a bulwark against tyranny. Thomas Jefferson, for example, wrote, "It is an axiom in my mind that our liberty can never be safe but in the hands of the people themselves, and that too of the people with a certain degree of instruction" (Letter to George Washington, Jan. 4, 1786). This is still our national conviction.

the welfare of and more tolerant about the inherent characteristics of their fellow human beings. They are also more efficient consumers, invest more of their income and more wisely, and take better care of their health. Overall, college attendance leads to better decision making in many areas of life at a time when better decisions about public and private matters are sorely needed.⁹ (See Figure 16 for selected factors associated with attendance in college.)

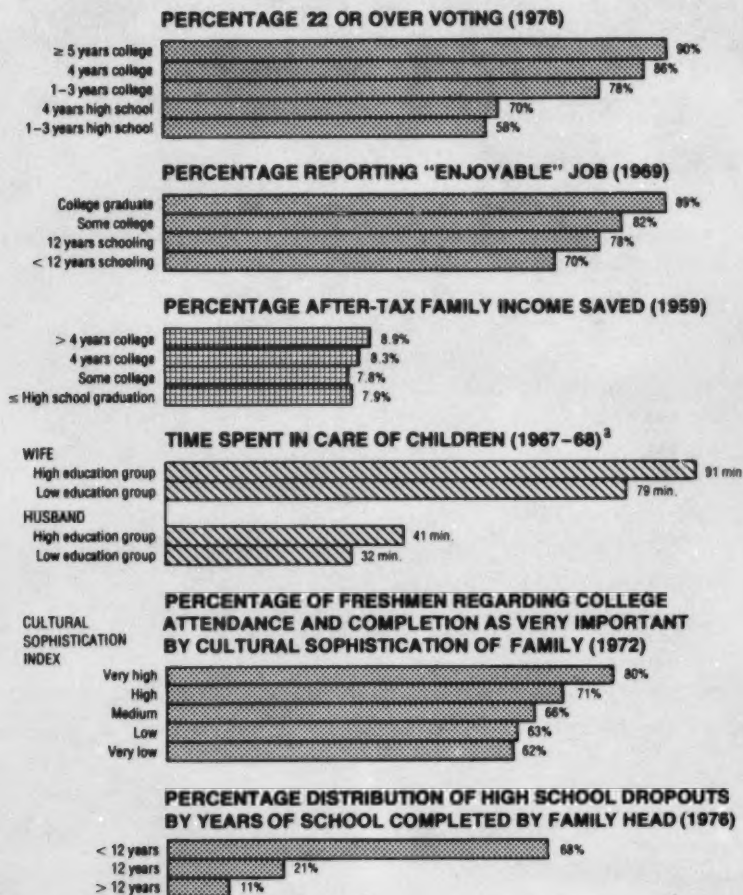
6. *Capabilities to offer greater equality of opportunity and the possibility of a greater equality of earned income.* Attendance in college is clearly associated with higher income and more prestigious occupations. Higher education in the past decade, in particular, has substantially increased the opportunities for women, members of minority groups, and persons from low-income families. This is what the Japanese call "social rebirth"—persons are able to break away from the confines of inherited status and prior social restraints. Should present trends continue, which we hope and expect they will, there will be even more achieved equality of opportunity by the year 2000 for both minorities and for women. This is highly essential. Much progress has already been made by women and by blacks, compared to white males but none by young persons in the lower half of the income ranges compared to those in the upper half. (See Figure 17.)

Minority youth (including Hispanics) will increase in numbers, comprising nearly 30 percent of all youth by 2000. (Nonwhites will be 19 percent, and Hispanics are already 6 percent.) The nation will greatly need, as never before, the skills, the conviction that they have had a reasonable measure of equality of opportunity, the willingness to participate in the work and governance of the society of this one-quarter and more of the next generation. To accomplish this will require affirmative action in all aspects of American life.

Earned income may become more equalized as more people obtain more education, reducing the number of persons competing for manual positions and increasing the number competing

⁹For a discussion of these and other consequences of college education on the behavior of graduates, see Bowen (1977, chaps. 3-8) and Supplement E, *Higher Education and Human Performance*.

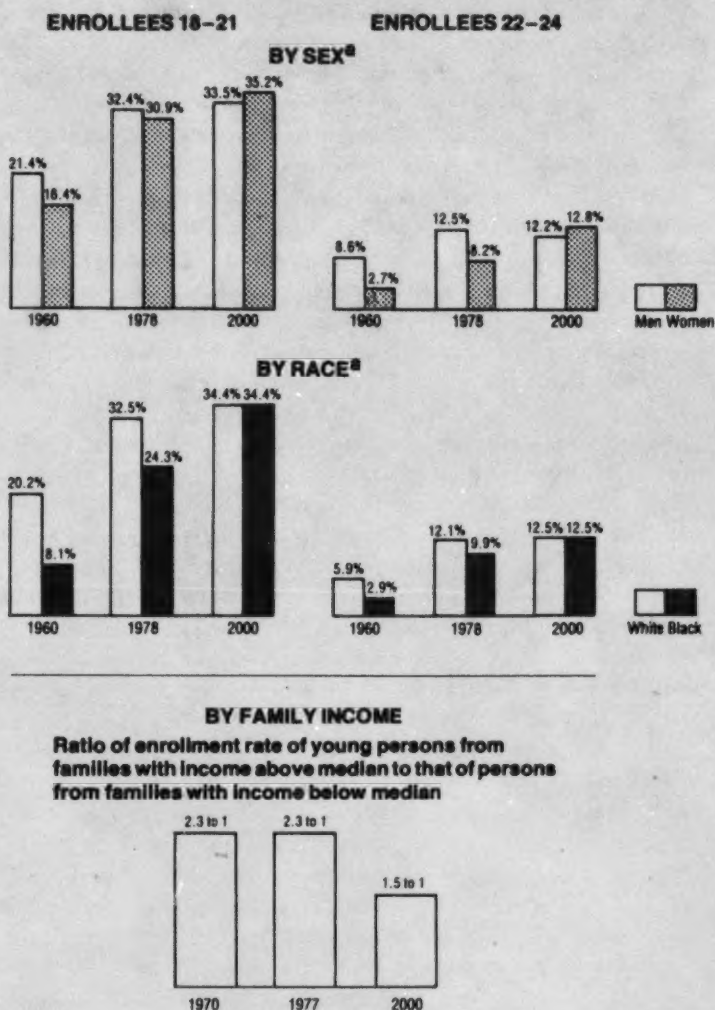
Figure 16. Variations in selected measures of human performance, by educational attainment



^aMinutes in 48-hour period; other than physical care.

Source: Supplement E.

Figure 17. Progress toward equality of opportunity for college undergraduates, 1960 to 2000



^a Percentage of age group enrolled.

Sources: U.S. Bureau of the Census (1964; 1971; 1979b). Projections of enrollment rates of persons from high- and low-income groups are consistent with expectations discussed in *More than Survival* (The Carnegie Foundation for the Advancement of Teaching, 1975, pp. 113-125).

for nonmanual work. Within a few years after 1969, the rate of return on a college as against a high school education went down by over one-third, as many more college-educated persons entered the labor market during a period of intermittent recessions. This was not true, however, for the prior two decades, when the demand for college graduates was very high for teachers, for researchers, and for participants in many other professional and managerial occupations, and when the increased supply had not yet appeared on the market. Nor may it be true for the next 20 years when college graduates are likely to be in short supply because of the reduced size of the age cohort. However, in the long run, this is the tendency over long periods of time in a single nation, including the United States, and among nations at different stages of economic and educational development—the more advanced are the more equal in general. This equalizing impact of additional education, however, is reduced in a society like the United States where there is an open border between it and a much less advanced nation economically (Mexico).¹⁰

7. *Abilities to provide ever more constructive evaluation for national self-renewal.* The campus, today, is a major source of informed criticism of society and of proposals for improvement. This is true, in part, because the churches generally and the organizations of farmers and workers are less a source of social criticism than they have been historically in the United States. The campus in recent times has been a major source of re-evaluation in areas such as racial justice, the conduct of the Vietnam war, the preservation of the environment. This capacity for self-renewal through informed evaluation is as important as it ever has been in our national history as we face some totally new circumstances. The public apparently highly values informed criticism as seen by the response to investigative reporting on TV and in the press.
8. *Capacities to provide more services to the surrounding community.* College campuses are increasingly becoming centers for cultural, recreational, and social activities; this is particularly true for the public community colleges, but not for them alone. The Grange, the Union Hall, downtown, and even the churches are less and the

¹⁰See Supplement F, *Equality of Opportunity and Equality of Earned Income* for a discussion of the factual situation.

campuses more the centers of community life than they once were.

9. *Capability to maintain a network of contact and communication.* Institutions of higher education, professional organizations associated with them, and individuals within them provide a major means of communication among groups and individuals within the United States, and with foreign cultures. They are a major source for reporting, interpreting, and commenting upon single events and major developments alike. The university and its many parts comprise a key communications link in the modern world.

Preservation and enhancement of these nine capabilities are of importance to the nation as we approach and reach 2000. To preserve and enhance them will require the continuation of some institutions that might otherwise disappear because of the immediate circumstances of the next two decades, the employment of young scientists on campus whose talents might not otherwise be so well utilized, and the adequate financing of all institutions. To do this will not cost much, if any, additional money, as we shall note later. In fact, the total cost of higher education for most of the period to 2000 will be a smaller percentage of the GNP than it is today. The purposes to be served are great; the costs are modest.

Higher education needs a mood of anticipation and a sense of great purpose almost as much as it needs anything else: anticipation, at a minimum, of survival but also anticipation of an even more useful future, of much that ought to be done that can be done; anticipation of a revival of enrollments around the year 2000. Yet, dread is now the dominant mood. What is required, instead, is a forward thrust of plans, energy, and determination.

Prospects for Participation in an American Renewal

American society might change drastically, for the better or for the worse, over the next two decades, although we doubt this. If it should change drastically for the worse, perchance, the capabilities of higher education for solving problems would be even more needed by society, and, if there were a series of severe recessions or depressions, for absorbing youth that would otherwise be unemployed. Probably the least favorable situation for higher education would be a continuation of a national drift in no clear direction. We see, instead, possibilities for national and individual self-renewal within the context of present institutional arrangements as a result of:

America's view of itself as a nation of progress, as on the cutting edge of civilization, as a power in the world. This view has been challenged recently, and we expect the nation to rise to the challenge. Specifically, we appear to be facing a new confrontation with Russia, as after Sputnik, in many spheres of activity. Also, Americans have an expectation of growth and improvement internally and will not give up easily on these expectations. All this calls for a renewed effort to advance skills and technology, for more investment in human as well as physical capital. We may well experience a new burst of national vitality, as has happened repeatedly in our national history—for example, at the time of the New Deal, of our entry into World War II, of our period of postwar recovery, and of the early 1960s and the New Frontier.

The search for a way out of limited resources. We face a substantially steady state, at least for the short run, in sources of raw materials, energy, air, and water. Only new knowledge is still apparently limitless, the last frontier to explore, the one best remaining source of human advancement. The research university is the only place where knowledge in all its forms and aspects is brought together, where it is advanced the fastest and farthest. New knowledge will be needed as never before to preserve and enhance the use of physical resources.

The heightening of expectations of millions of Americans, particularly women, members of minority groups, and older persons. They want improved jobs and more fulfilling lives and better health. Education is one route to each of these goals. There is more concern generally for investment in self. People live longer, and they come to realize increasingly that (1) it consequently pays to invest more in their skills and in their capacities for using their lives, and (2) it is more worth looking around to determine how one may wish to use his or her life. Both realizations lead to more emphasis on additional years of education. Also, longer lives and more occupations from among which choices can be made encourage more midlife changes of jobs, often with an educational input in the process.

We expect that America will seek to maintain its place in a competitive world, that the search for an escape route from the current confines of fixed resources will go on, that Americans will

not lower easily their individual expectations, and that the size of the American population will not be allowed to decline after 2000 almost regardless of fertility rates. Thus, we do not anticipate a fast or slow fade-out for American higher education. We expect it to continue to move forward in response to both national and individual aspirations.

Higher education is, of course, highly dependent on the national mood. It has advanced most rapidly when there has been a convergence between national aspirations and the capabilities of higher education. Such a period occurred in the decades after the Civil War when the land-grant movement contributed to agricultural and industrial advances. Another such period came in the 1960s, with higher education contributing to the responses to Sputnik and to the civil rights revolt. The vitality of higher education depends greatly on its opportunities to respond to the needs of the nation as expressed through the political process. A new period of national self-renewal may be ahead with favorable repercussions on higher education which could participate in the self-regeneration and self-revitalization process.

Our general approach in this report is to be aggressive about the future, not just defensive; to be determined to preserve a very valuable national resource, but to be flexible in how to accomplish this.

We agree with an editorial published in the *Washington Post*. It said: "Taken together, the universities are probably the strongest of all institutional influences on the American future" (December 21, 1977).

Choices to be Made

There is much that should be done, and much that can be accomplished. To maximize achievements, some hard choices must be made.

1. *Quality.* The quality of the academic product as measured by scores on tests taken before entering graduate work has deteriorated significantly.¹ The deterioration largely takes place prior to entry into college, since test scores out of high school have gone down similarly. That does not mean, however, that colleges can do nothing about it. They can make up for deficiencies accumulated in the high school. They can work with the high schools, as does the College of Letters and Science at Berkeley, to improve the quality of their instruction. They can also make efforts to improve the qualifications of their graduates who enter the teaching profession. Too many institutions of higher education have abdicated their responsibilities toward the primary and secondary schools.

What can and will be done depends on the individual college. We consider a desirable goal for the year 2000 to be a return to the academic quality level of 1960 in the achievement capacities of its

¹The proportion of test-takers attaining scores above a critical level (the "high-ability" group) dropped from about 19 percent to 13 percent for arts and sciences graduate school applicants between 1966 and 1979, and from 18 percent to below 15 percent for graduate business school applicants. (Data supplied by Educational Testing Service, Princeton, N.J.)

graduates. Each institution should have this as its goal.² Our 1978 Survey of Institutional Adaptations to the 1970s found that 80 percent of institutions now do have "comprehensive basic skills programs."

Qualitative growth should replace quantitative growth, using the thought and energy that have previously gone into the latter: growth in the quality of teaching, research, and service.

2. *Balance.* Five mainstreams of intellectual activity constitute the central agenda of higher education: teaching and scholarly work in the sciences, the social sciences, the humanities, the creative and performing arts, and the professions. In recent times, great enrollment gains have been made by the professions and great losses sustained particularly by the humanities (The Carnegie Foundation for the Advancement of Teaching, 1977, p. 103). No single definition of "balance" can be set for American higher education. We do suggest, however, that each institution should define and seek to achieve its own chosen "balance" and not just let ad hoc actions yield some unplanned result. Balance involves both the composition of the faculty and the totality of courses offered; and the balance in how students actually spend their time. Recently, more time has been spent on electives and less on general education. We see a great need for rethinking the undergraduate curriculum along the lines we have suggested in *Missions of the College Curriculum* (1977).

Overall, we have two main concerns: (1) that the humanities are often being unduly neglected, and (2) that the creative and performing arts, given the new interests of students in the qualities of their lives, may still be subject to further expansion. We note, in connection with the humanities, that alumni most frequently state they wish they had taken more work in the humanities (Spaeth and

²In spite of the overall decline in the average Standard Achievement Test (SAT) scores of entering freshmen, a group of high schools exists whose graduates' scores have maintained pre-decline levels or have risen (Thomson and DeLeonibus, 1978). It is difficult to maintain if there are, similarly, colleges whose students' scores on examinations for entrance into graduate schools have also remained at prior levels or risen. Since some departments within colleges and universities are more effective than others, even within the same institution, overall institutional comparisons of student achievement tend to blur or wash out these important interdepartmental differences. (See Hartnett and Centra, 1977, pp. 491-507.) However, the experience at the high school level implies that individual colleges and departments within them can maintain or raise scores by their own special efforts.

Greeley, 1970, p. 69). The vocational emphasis of today may pass, and student interests may again shift back to the liberal arts. Thus, it would be wise for institutions to maintain a reasonable level of capacity to adjust to such a possible shift. We also note that colleges have a responsibility to preserve contact with all major aspects of the cultural heritage.

The greatest responsibility to preserve balance will probably fall on the research universities, in particular for maintaining graduate fields with low numbers of Ph.D. candidates, and on selective liberal arts colleges. Fortunately, they are in the least vulnerable category of institutions. Private and federal funds will be essential to their efforts, as state funds mainly follow the student market.

3. *Integrity.* We have elsewhere expressed concern for the deterioration of integrity on campuses.³ In particular, we have noted: grade inflation, reduced academic requirements, low-quality off-campus programs, false promises by institutions, cheating, vandalism, and student defaults on loans. Higher education, which should set standards for other elements of society to emulate, now stands at the higher end of the range of "fraud, error, and abuse" in federal programs.⁴ The morality of this disturbs us. So also do the potential political consequences. Public confidence in higher education was greatly shaken by the occasional resort to violence and mass pressure in institutions historically respected for reliance on reason and persuasion, during the student movement from 1968 to 1970. Erosion of respect for the integrity of higher education could have similar

³See our report on *Fair Practices in Higher Education* (1978). See also Bailey (1979b); and his discussion of "galloping shoddiness" in some programs (1979a).

⁴In 1978 the Comptroller General said that: "No one knows the magnitude of fraud against the Government....However, all indications are that fraud is a problem of critical proportion. Department of Justice officials believe the incidence of fraud in federal programs ranges anywhere from 1 to 10 percent of the programs' expenditures" (U.S. General Accounting Office, 1978). A report a few months earlier by the U.S. Department of Health, Education and Welfare's Inspector General (1978, Appendix 1) placed certain postsecondary education programs near the very top of the Department of Justice statistics. Of \$3.6 billion disbursed for the five major student financial aid programs, \$356 million (9.9 percent of the total) was lost through fraud and abuse. Since the issuance of these reports there has been some improvement, but the problem still remains a visible and public mark of deterioration in campus integrity.

consequences in the 1980s and 1990s. Each institution needs to examine its own conduct, as, for example, the University of Delaware has done. It will be a tragedy if the following prediction were to come true: "The competition for students in the next decade will become more and more rapacious with many of us abashed at the used-car huckstering techniques employed to proselytize students" (Glenny, 1978). The theme should be, instead, "moral responsibility."⁵

4. *Adaptations compatible with the academic standards and community character of each college.* Each institution will decide, and some have already, what adjustments will be made to the demographic depression. A few, such as medical schools and schools of mineral technology, need to make no adjustments. Others will need to make major adjustments, perhaps particularly the less selective liberal arts colleges and the comprehensive colleges and universities. Main areas for adaptation are the following:

Admission. How far, if at all, will academic entrance requirements be reduced? What arrangements will be made for part-time students, for transfers, for adults?

Recruitment. How much more effort will be put into recruitment? To what extent will student aid funds be used for purposes of recruitment in contrast to meeting actual financial needs?

Retention. What additional assistance will be given to students to encourage them to stay in college by way of academic, occupational, and personal counselling and by way of financial aids? To what extent, if any, will grading standards be further relaxed, will academic requirements be reduced, will disciplinary actions be eased?

Programs. What new programs will be added? Many new vocational programs have already been introduced. A corollary is: What old programs will be dropped?

New schedules. The conditions of the 1980s will make it particularly attractive for young persons both to go to college (to realize a higher prospective ratio of returns on a college education) and to work (to obtain current higher rates of pay). At the same time, the labor market will make possible more "split-level weeks" because more people in the labor market are on a part-time basis and absenteeism has risen in some industries,

⁵See the discussion in Hesburgh (1979, particularly pp. 155-157).

particularly on Mondays and Fridays, creating more opportunities for students to fill part-time vacancies. We still have a 40-hour work week with much of the labor force on actual schedules of less than 40 hours. This suggests a whole series of possible schedules for higher education with programs that can be completed only in the morning, or only in the afternoon, or only in the evening; or only on Tuesday, Wednesday, Thursday; or only on Monday, Tuesday, Wednesday; and so forth.⁶ The possible introduction of the four-day week will enhance such possibilities. What new schedules will be adopted?

There are many possibilities in these and other adjustments, but dangers also. The dangers are threats to quality, to balance, and to integrity, and to the internal life of the campus which we discuss below. Each of these could be sacrificed in major ways; they could become the great casualties of the next two decades, unless individual institutions keep their importance constantly in mind.

5. *Dynamism.* The effective "management of decline" is extraordinarily difficult.⁷ One tendency is to preserve the status quo in the short run, thus sometimes encouraging even further decline in the long run. Higher education has very special problems in this regard. Decisions on campus are mostly made on a consensus basis and involve several veto groups. Preservation of the status quo may be the only possible rallying point for a consensus. Also, historically, change has been a product of growth; has come by way of add-ons—higher education has been better at addition than at subtraction. It is not by chance that the two greatest periods of programmatic advancement have been the two periods of greatest growth:

1870-1890 when enrollments tripled (52,000 to 157,000 headcount); and the land-grant movement got started; science was greatly emphasized for the first time; service activities were added; the neoclassical college was replaced by the modern college and university; electives were widely introduced; the department was

⁶See Supplement G, *Academic Schedules and the Split-level Week*.

⁷"Education is likely to be the first major segment of the economy to suffer a relative decline, and management of this decline may very well set the tone for management of the general slowdown" (Boulding, 1975).

created as the basic unit of administration; graduate work was introduced; and much else.

1960-1980 when enrollments more than tripled (3,500,000 to 12,400,000 headcount); science efforts were greatly enhanced; universal-access higher education was introduced; the community college movement was extended nationwide; equality of opportunity was advanced as never before; and much more.

The absence of growth will be keenly felt. Governmental controls at the state and federal level, however well intended, are also reducing possibilities for dynamic change, making it harder to achieve, making it more costly in time and resources, tying up efforts in reporting and accounting. The aging faculties, the emergence of new veto groups, and the spread of collective bargaining add new rigidities. In higher education, contrary to the situation in American industry in the organizing decade of the 1930s, collective bargaining is a defensive, not an aggressive, act aimed mostly at holding on to as many of the advantages of the past as possible. Many of the pressures of the developing situation will encourage the spread of collective bargaining, particularly the erosion of the real incomes of faculty members, the emphasis on affirmative action, and the attacks on tenure.⁸

There are ways to encourage dynamism:

- Institutions can set a policy to reduce existing programs, perhaps by 1 to 3 percent a year, in order to start new programs; as Case Western Reserve did so successfully.
- The federal government can increase support for the Fund for Improvement of Post-Secondary Education (FIPSE), and the states can follow suit, as a few (including California and Florida) have done already, to encourage experimentation.
- State financing formulas can provide leeway for new endeavors.
- Private foundations can establish presidential discretionary endowment grants for innovation as the Hewlett and Mellon Foundations are jointly doing.
- Colleges can hold some percentage, for example, 10, of their faculty positions in temporary or short-term appointments.

⁸See Supplement H, *Faculty Development Present and Future*.

- Colleges can keep tenure ratios for faculty members at reasonable levels, for example, two-thirds of the total.

And there are major new areas for initiatives, including advancing the use of the new electronic technology,⁹ enriching programs in the creative and performing arts, making more campuses serve as the cultural centers for their communities, adding new facilities and programs to aid youths to enter the world of work, introducing more global perspective into courses,¹⁰ making better use of libraries as learning centers.

6. *Effective use of financial resources.* The financial resources of many institutions will be under pressure as seldom before. Lower enrollments will reduce total income from tuition and state support alike. Fixed costs per student will rise as these costs are spread over fewer students. Also, an aging faculty costs extra money—salaries of senior faculty members are generally twice the level of those of junior faculty members. Rapid inflation is particularly harmful to colleges since their prices are “sticky”—subject to change only once a year and set in the face of organized consumers. The rate of growth of the real national product of goods and services has been slowing down and is likely to continue to do so, and there are many competitive claimants for these goods and services.

Institutions of higher education, by and large, will need to be more concerned with the effective use of their resources. But the more effective use of resources does not come easily. Major constituencies—faculty and students—are not traditionally highly cost-conscious. Productivity is difficult to increase—it has remained virtually constant for the past half century. Two of the short-term ways to reduce costs (by cutting down on maintenance and by reducing expenditures on new library holdings) are both self-defeating in the long run.

⁹Over eight years ago, Perkins (1972, p. 5) stressed the importance of educators collaborating closely in developing the applications of technology to the learning process. He warned that, “If such collaboration does not take place, then we must face the prospect of an educational business that is organized, its materials distributed, and its standards set completely outside the formal educational structure.”

¹⁰See Burn (forthcoming). The introduction reflects the Council's views on ways to reverse the erosive trends in international education of the past decade. See also the recent report of The President's Commission on Foreign Languages and International Studies (1979).

A major method of reducing costs, by increasing the student-to-faculty ratio, has drawbacks: it is limited by tenure rules; it reduces the variety of courses available, which can impair the attractiveness of the academic programs in small and middle-sized institutions; and it can reduce the attention given to the individual student. Also, the higher the student-to-faculty ratio, the fewer new jobs are available for potential faculty members. We expect, however, that student-to-faculty ratios might rise by as much as an additional 10 percent, which would reduce costs by about 5 percent. These ratios overall have already risen by 10 to 20 percent over the past two and one-half decades.¹¹ Some of this rise is caused by the shift of students from smaller to larger institutions and from private to public colleges. Heavy costs in the reduced quality of academic programs because of rising ratios, however, are borne by colleges with already restricted offerings. The impact on large, comprehensive institutions is less evident. Increases are easier in lecture courses in all types of institutions than in laboratory sections and tutorials, so that the way in which ratios are raised is of great importance. If they are raised by cutting out very low enrollment courses or by adding enrollments to medium-sized lecture courses, little may be lost. If, however, the ratios are raised by overloading laboratory sections or tutorials or by cutting out essential courses, then much can be lost.

The pressure on this ratio will be great. The two major ways to reduce costs are either by lowering the real levels of faculty salaries or by raising the student-to-faculty ratio. Either way has disadvantages. As between them, however, a judicious increase in ratios, at least in large institutions, may be both preferable and more politic; and, in any event, this has been the more common choice over the past decade. We note that the quality of teaching depends generally more on the approach of the teachers than the size of the class.¹²

¹¹See Supplement I, *Instructional Costs and Productivity, 1930-1977*.

¹²One study found no clear correlation between student-faculty ratios and quality of instruction at the undergraduate level (Radner and Miller, 1975). A review of 40 years of research on methods of teaching (discussion groups versus lectures or independent study) concluded that "no particular method of teaching is measurably to be preferred over another when evaluated by student examination performances" (Dubin and Traveggia, 1968, p. 31).

We know of no novel ways to reduce costs, but we do urge consideration of more consortia,¹³ of more nearly year-round use of resources, of discontinuation of unnecessary Ph.D. programs—many of which should never have been started—and of policies by states which allow institutions to keep the results of their cost-saving efforts to use on new programs. None of these will save much money, but each has other advantages. There are many other cost reduction methods that deserve consideration.¹⁴

¹³Both the costs and the benefits of interinstitutional programs were recently investigated in great detail. Thirty-seven cases of cooperative activities in the areas of cross registration, library and media cooperation, student services, group purchasing, nontraditional programs, and academic programs were carefully analyzed. It was concluded that such cooperative arrangements offered many advantages, including (1) avoiding costly and unnecessary duplication, (2) increasing quality of offerings and services, and (3) expanding the diversity and breadth of the educational experiences of the students. See Council for Interinstitutional Leadership (1979).

¹⁴See Bowen and Douglas (1971), who examined the cost and educational effectiveness of six different modes of instruction. The study was confined to undergraduate instruction in small, independent liberal arts colleges, but the results are suggestive for large institutions as well. They concluded that "... liberal arts colleges might cut costs and at the same time improve instruction by simplifying their curricula and adopting a judicious mixture of educational methods... an eclectic plan" (p. 73). In the eclectic plan, some courses would be taught using large classes and the lecture hall, while others would use programmed independent study, tutorial sessions, or small classes in a more conventional mode. Their detailed cost estimates of one eclectic plan suggest that considerable savings, without sacrificing educational quality, might be possible for many colleges through careful planning of the mixture of instructional modes (pp. 78-79).

Frederick Balderston (1974, chap. 7) has also suggested how cost analysis might be used in internal operations, management, and planning to improve the allocation of resources and secure increased educational benefits from a given expenditure of funds. A recent evaluation of such innovations as management information systems and management by objectives concluded that the benefits of these systems are worth their costs when they are properly developed and carried through in colleges and universities (Baldrige and Tierney, 1979, chap. 1).

319 Ways Colleges and Universities are Meeting the Financial Pinch (Academy for Educational Development, 1971) is a list of money-saving practices instituted by campuses to meet the increased financial pressures of the early seventies. Presidents, vice-presidents, and business managers supplied the detailed list which ranges from the fairly straightforward, noncontroversial suggestion (number 27): "At a state institution: Picking up monthly subsidy payments by messenger at state treasurer's office to save days in transit and make remittances available earlier for short-term investment," to significant policy changes: raising tuition, freezing salaries, for example. The list has been reproduced as an appendix in Mayhew (1979, pp. 306-320). Section 10 of this volume is a detailed discussion of how to control program and faculty costs in a period of retrenchment.

The suggestions in the text have also been discussed in considerable detail in

7. *Financing.* Higher education probably needs to reconcile itself to the possibility that there are not likely to be any massive new federal programs, although we make several suggestions in the next section about federal financing; and we see only one major area for expansion of state support. This places great emphasis on private support, which, over the long run, has been a falling component of support, even as the households of the nation have become more affluent. Private support carries with it not only money but, quite beyond the possibilities in public support, autonomy in its use and protection for the more strictly academic concerns of higher education for quality and balance. The Carnegie Commission (1973b, p. 9) once suggested that it was reasonable to expect that tuition in public institutions be about one-third of instructional costs offset by tuition scholarships on the basis of need. The exception would be community colleges, which should have comparatively low tuition (similar programs in comprehensive colleges and universities might also be included). The Council considers this to be a proposal worthy of consideration. Several states now approximate these levels. Tax policies should encourage private gifts to colleges. And states should consider all private gifts as over and above their own contributions. All institutions should seek to maximize their private sources of funds. A corollary of this is to encourage policies that make public funds act as nearly like private funds as possible. This means public foundations with the autonomy to act like the best of the private foundations. It also means channeling funds through private individuals as do the federal BEOG program and state tuition scholarship programs.¹⁵

8. *Leadership.* The call for leadership is a call to handle such problems as those just listed, none of them easy and several of them

Carnegie Commission and Carnegie Council publications. *The More Effective Use of Resources* (1972b) suggests modification of budgetary procedures that tend to discourage innovations and cost savings (pp. 107-110), recommends specific policies for increasing the flexibility of a campus in handling faculty problems related to changing enrollments (pp. 111-117), and points out many changes in degree structures that would achieve considerable economies (pp. 49-58). In addition, the training and development of a middle-level administrative staff is recommended, particularly for larger institutions (pp. 130-132). See also *More Than Survival* (1975a, chap. 6); and Mood and others (1974).

¹⁵See the discussion in Kramer (forthcoming).

contradictory in their implications for action; and a call to create conditions for progress in the absence of enrollment growth. Yet a period such as that ahead does not readily attract the ablest leadership—the tasks are grinding ones, the victories too often take the form of greater losses avoided, the internal constituencies are more likely to be united around doing nothing than doing something. “The problem of administration becomes more difficult and the quality of administration is apt to decline;” and the new skills required call for an “all too rare mixture of compassion and realism” (Boulding, 1975).

Additionally, it is difficult for new administrative talent to arise and be recognized. There are few successes along the line to lead to greater visibility and greater opportunities; there are no successes without costs; and the now-existing communications network, and the veto groups who use it, can turn the costs into guillotines. Aggressive leaders are often eliminated in the process.

Once in office, many presidents are caught in Catch-22 situations. Their boards ask for certain results, but getting those results antagonizes one or more constituencies (usually the faculty), and losing that constituency calls for replacement. Yet there are many able presidents still around, and their average years of experience on the job is now five. (Their predecessors had a median average of 6.5 years total tenure.)

We believe that the future period requires even more able leadership than that just past. In particular, we see the necessity for longer terms of, say, 10 years normal minimum, for presidents, because the problems are long-term and can be made worse by short-term presidents avoiding them or seeking short-term expedient solutions. We also see the need for more authority in the hands of the president,¹⁶ which means more active support from his or her board.

¹⁶Our surveys and field visits indicate some tendency in this direction already due to the nature of the most insistent problems on campuses (finances and enrollments) and due to more governmental controls, since each of these problems concentrates attention on the president. An exception may be the campus head in a highly centralized multi-campus system. In the Carnegie Council Surveys of 1978, 44 percent of the presidents said their authority had increased and 88 percent thought they now had enough authority; although the authority of the president and the academic distinction of the faculty seem to move in opposite directions. The specific power we think it most important for presidents to have, facing the situation of the future, is the power to reallocate or discontinue faculty positions that become open.

We suggest:

- Better search methods assisted by the American Council on Education and by such organizations as the new Presidential Search Consultation Service established by the Association of American Colleges and the Association of Governing Boards.
- We also call attention to the good suggestions in the Nason report for the AGB (Nason, 1979).
- More concentration by boards of trustees on looking for leaders rather than survival managers—as they seem to have been doing of late. The challenges of the future require leadership, and good day-to-day management can be supplied at the vice-presidential level.
- Procedures for an early informal review of a president (say, after 2 years) with the understanding that following such a review the total term of office will be about 10 years in the absence of very strong reasons to the contrary.¹⁷
- Determination by boards to stand behind presidents who do well what the board has asked them to do. The costs should be estimated in advance, and boards should indicate their willingness to help bear them.¹⁸

We are also concerned that the membership of boards of trustees be strengthened.¹⁹ Trustees, above all others, must assume the burden for the long-run and overall welfare of their institutions.

9. *Preservation of private colleges.* The preservation of these colleges is of almost equal value to the public institutions since the autonomy of the private colleges helps to protect the autonomy of the public colleges, their academic freedom, their ability to experiment, and their opportunity to grant attention to the individual student. The public at large is also well served by having their capacity to adjust to constituencies, for example, fundamentalist Protestants,

¹⁷For a discussion of reviews of presidential performance, see Nason (forthcoming).

¹⁸For a discussion of how presidents currently look upon their situations, see Stadman (forthcoming). They generally are most worried about inflation and financial support (all institutions), about enrollments (especially private colleges), and government controls (especially public institutions).

¹⁹See Mortimer (forthcoming); and Nason (1974).

that cannot be equally served by public institutions. One test of the performance of leaders of the public segment is their willingness and ability to defend the survival of the private segment.

We call attention to the recommendation we have made elsewhere²⁰ for state support of private institutions, particularly through tuition scholarships based on student need. We oppose bailouts because they reduce the sense of self-dependence, but we do favor assistance with mergers. We also oppose tax credits for tuition, both because such a program is very costly and because it is very regressive in its incidence. We also oppose take-overs of private institutions by public authorities, as a general policy, because we believe the private segment should be continued under private governance. We favor experimentation with hybrid types such as the state-related colleges in Pennsylvania and New College in Florida, which preserve the private character of institutions while making public funds available to them. The tuition scholarships that we support make the competition with public institutions more fair and more based on the performance of the institution. Moreover, they can reduce the need for bailouts and help assure the autonomy of the private colleges.

We expect major political battles over these matters in states where there are many less-selective liberal arts colleges—particularly where these colleges have connections with religious institutions, and especially in states where enrollments will go down more than the average. This concentrates attention on the states in the Northeast and several of the Midwest states including Ohio, Indiana, and Illinois. Senators and representatives from those states may often favor, in particular, special federal subsidies for small colleges via tuition tax credits or in other ways; and they have many votes.

We do not wish to suggest that private colleges are an endangered species. Certain factors may be working in their favor:

- More affluence—which makes it easier for parents to afford private tuition
- Fewer children per family—which also makes it easier for parents to afford private colleges
- More second-generation students who are more likely to attend

²⁰See *The States and Private Higher Education: Problems and Policies in a New Era*, (1977).

private colleges—the percentage of first-generation students may have peaked already

- Less labor market pressure for vocational subjects and more leeway for a liberal arts emphasis
- More emphasis on "quality-of-life" considerations that can be advanced by the collegiate atmosphere—which particularly marks many private colleges (and some public also)
- Strong alumni and community support as shown in resistance to the closings that have occurred or been attempted.

Nevertheless, private colleges meet many handicaps because of comparatively higher tuition (nearly \$2,000 higher in private than in public institutions), predominant location in the Northeast and Midwest, intensified competition from public institutions, and frequent small size and location in small towns.

10. *Basic research.* Over the past half-century (1930-1980) the United States has become pre-eminent in the world in most areas of scientific research.²¹ This has been of great benefit to the nation in peace and war. For a time, American standards of living were the highest in the world. World War II might have turned out quite differently if, at that time, the United States had not moved into the forefront of research in physics. Now this is changing. Some other countries surpass the United States in per capita income; Germany, Japan, and Russia, in particular, are spending more of their resources on research and development than does the United States. The United States has been lagging in productivity growth for many reasons, one being less rapid rates of technological advance.²²

A major reason for the historic American advantage has been the concentration of basic research in its universities as against government agencies or industrial laboratories as is the policy in many other nations. Several other nations, including Japan, Russia, and China, have been increasingly following the successful Ameri-

²¹See Ben-David and Zloczower (1962, pp. 45-84) for a comparative view of the systems of scientific research in the United States, England, Germany, France, and the U.S.S.R. The authors conclude that "the American university system, with its constantly expanding and heterogeneous functions, is now the most influential system of higher education and research" (p. 76).

²²Supplement J, *A Comparative Review of Scholarly, Scientific, and Technological Progress in the United States.*

can practice. Some of the important aspects of the American experiment with concentrating basic science research in its universities have been:

- The contact of scholars across several fields of knowledge on the same campus
- The contact of researchers with the inquiring minds of graduate students
- The competitive search by universities for the best talent to be found within all segments of American society
- The training of the next generation of young scientists in the course of conducting current research
- The opportunity given young faculty members to conduct their own research, as against dependence on the head of the laboratory in other systems
- The provision of reasonably adequate funds from a variety of sources—several federal agencies, the states, industry, and private foundations
- The access to these funds on the basis of merit as judged by scientific peers, and keen competition to obtain funds by many scholars in many institutions of higher education where their promotions depend in part on their success
- The interest of many American universities in serving industry, agriculture, and the professions.

After a decade (1967-1977) of declining financial support from the federal government in real terms, federal support for university research once again is reaching what appear to be reasonable levels. State support, however, often tied to enrollments, is likely to go down, and this tendency should be offset, as we shall note later.

We have another major concern: the flow of young scholars into certain fields, such as physics, mathematics, and plant genetics.²³ This flow is prospectively not so much determined by the decline in enrollments, since the leading research universities will not be affected greatly if at all. Rather it is determined by the low faculty retirement rates for the next 10 to 20 years. There will be relatively few replacements, given the age profile of present faculty members. This

²³See Supplement K, *Smoothing Out the Flow of Young Scientists into Universities*.

will deny opportunities to the ablest potential young scientists, including women and minorities, to find university employment and may discourage them from getting the Ph.D. at all. It will also, as a consequence, deny society the contribution of their services. Also, it is more productive to have a reasonable age spread within scientific departments. What we now have is a predominantly middle-aged group to be followed later by a bimodal distribution of older faculty members and younger faculty members coming in during the 1990s without many faculty members in the in-between years. Policies leading to a more uniform age distribution would both encourage the aspirations of young scientists of high potential who may feel that all doors are closed against them, and would result in departments which are more productive in both research and teaching. By 2000, American society could be seriously weakened in competition with other nations and also in its own capacity to respond to new scientific opportunities if modest policy actions are not taken, and we support a proposal set forth later in this report (Section 7 and Supplement K).

We have, as a further concern, the support of research libraries as overall institutional income declines with falling enrollments. Here, also, we will make a proposal later in this report.

The Internal Life of the Campus

We have an overall concern about higher education that transcends individual aspects. This is what may happen to the "private life" of the campus.²⁴ This life consists of the many personal relations among individuals and groups on campus, and the spirit and tone of the campus.

This life is threatened by the cessation of growth. Growth is the American way of life, even in academic enterprises. When enrollment growth stops and the flow of additional financial resources that goes with it slows down, and particularly when decline sets in, there is

²⁴"The private life of education is what actually happens in the classroom, the libraries, the laboratories, at the desks, and in the offices—the moment-by-moment, day-to-day activities, and interactions of teachers and students engaged in teaching and learning" (Trow, 1975, pp. 113-127).

often a sense of failure and stultification that is self-confirming.²⁵ It also has other effects:

- It sets department against department, urgently competing for students and resources.
- It sets academic against vocational areas of the campus as, for example, the humanities against business administration—the former with low enrollment courses, the latter with high.
- It sets nontenured against tenured members of the faculty, and particularly nontenured female and minority members against male and majority members with tenure.
- It sets administrators and board against faculty and students in cutting back on programs.
- It creates a gulf between an aging faculty and students.
- It induces more time servers within the faculty. There is less competition to advance internally or get offers externally.
- It puts students in a position to dominate campus decisions and conduct in a manner that may unbalance traditional roles.
- It stifles opportunities for innovation.
- It sets purists arguing standards against pragmatists arguing survival.

Advancing the retirement age to 70 adds to the force of several of these developments.

Some of the adaptations we have noted earlier can weaken the sense of community and common experience on campus: the introduction of more part-time students, alternative schedules that keep people moving in and out like customers in a supermarket, less well-prepared students, more adult students, and efforts to retain reluctant students. They may well aid the college in other ways, but personal bonds among people can be weakened.

This can be particularly true where these bonds have been strong in the past, as in research universities and liberal arts colleges.

²⁵We distinguish between the cessation of growth after a long period of growth and a continuing steady state condition. It is the former, not the latter, that gives rise to many tensions. The latter state, once achieved, can be a quite satisfactory one within the institution. The former state involves expectations denied and many uncertainties about the future.

The less-selective liberal arts colleges, in particular, may have to undertake adaptations that weaken their sense of community, as many have already, although others have done the opposite by returning to their roots in a religious faith or a local community. Less affected are the community colleges and many comprehensive colleges which, in the past, have been accustomed to making quick adjustments in response to the student market. Doctorate-granting institutions may be strongly affected as they have to give up some of their Ph.D. programs and their aspirations for academic excellence that stood so high in the 1960s; and many faculty dreams will be unrealized.

The institutions best able to preserve their strong internal community life are likely to be the research universities and selective liberal arts colleges. They are not so vulnerable to enrollment pressures, have traditions of strong faculty participation in the governance of the institution, have far more than average sources of financial support, have strong alumni encouragement for preserving the character of the institution, and have an on-campus style of life. They are in the best position to preserve not only their community life but also their academic quality, their balance among fields of study, their moral integrity—traditional concerns of the academic guild of professors.

The internal life of many institutions has already been weakened. There are several harsh realities: Students are often more self-seeking than in the 1960s in their vocational emphases and self-serving in their neglect of concern for campus and societal welfare. Faculty members are sometimes demoralized by declining real income, by loss of control of academic life to students and to external interference, by disappointed expectations for institutional improvements that are dear to them, by doubts about the social importance of their contributions, and, among young faculty members, by increased difficulty in attaining tenure. Administrators often feel blocked by interior and exterior barriers from significant improvements they would like to make. Institutions are frozen by the fear of fundamental change, including closure.

The internal life of the campus is threatened from another direction. This is the rise of external forces and authorities that increasingly dominate campus life: the implacable forces of inflation and demography and the competitive market for students, and of the

authority of the state, the federal government, and the courts. This reduces the sense of autonomy and the spirit of independence, and encourages a sense of helplessness and alienation. It encourages collective bargaining aimed mostly at external threats. The campus no longer controls its own life to the extent it once did. It becomes less of a community and more of a self-interested professional organization as a result, more just another economic pressure group. Decision making is moving up and out. A principal potential of 1970 was more intense internal participatory democracy. In 1980, a principal potential is more external participation in the internal life of the campus as the federal government, in particular, has gone from being an investor in to a controller of the campuses. The combination of more participatory democracy from within and more participation from without can, together, greatly complicate the processes of governance and reduce the assumption of responsibility by anyone.

Within higher education as a whole, there is less a sense of common enterprise and more of a sense of campus against campus, segment against segment. Fights among organized constituencies within higher education are becoming more intense at the federal level and in some states. Instead of a united front, there is fragmentation and internecine warfare except when it comes to seeking large new sums of money for everybody. Excessive fears about the future add to the already strained relations in Washington, D.C., and in many states between public and private institutions.

Decline of enrollments and increasing external controls can sadly affect the internal life of the campus. We can only suggest that their potential effects be recognized early in the process and that efforts be made, campus by campus and higher education altogether, to offset them: to fight for community versus divisiveness; to fight for autonomy versus external domination.

Summary

The future holds many unknowns, and it also holds a range of already known choices that can be made by those making decisions about higher education. We have identified selected areas where something should be done and also can be done to affect the welfare of higher education. In many cases, no choice is the worst choice of all because it means either a downward drift in response to immediate pressures or a failure to seize upon constructive possibilities. We

believe that the problems in each of these areas should be confronted head on and that explicit policies should be adopted in each of them. External, particularly market, pressures will not alone lead to the best results. Internal thought, resolution, and determination are needed to assure that higher education as a whole and institutions individually reach 2000 with capacity to perform undiminished or minimally diminished by the demographic depression. The surrounding environment in the next 20 years will create some special problems that we can already see. It does not, however, determine in advance how well these problems will be solved or how inadequately; human choice, or absence of choice, will settle that. A downward drift in quality, balance, integrity, dynamism, diversity, private initiative, research capability is not only possible—it is quite likely. But it is not required by external events. It is a matter of choice and not just fate. The emphasis should be on "managing for excellence."²⁶

We conclude this section by noting how much of what needs to be done and can be done is subject to achievement at the institutional level. We have only suggested state and federal action in connection with the preservation of the private colleges and the enhancement of research efforts. All other goals can be achieved mostly, even only, by the action of institutions themselves. This places great responsibility on teachers, administrators, faculty leadership, and trustees; and on private financial support. Institutional action with private support is the single best key to unlock future possibilities.

²⁶Balderston (1974) distinguishes among "managing for survival," "managing for stability," and "managing for excellence."

Courses of Action

Institutions

We urge all institutions of higher education to contemplate carefully their prospective futures and to determine the policies that will favorably affect, in particular:

- Improvement of the quality of teaching, research, and service
- The preservation of an essential balance among the main intellectual streams of academic endeavors against the pulls of the market
- The enhancement of integrity of conduct on campus
- Effective adaptations that do least damage to the internal life of the campus
- The continuation of dynamic adjustments to new possibilities without any compensating increase in resources
- The more effective use of resources and their better allocation internally
- The creation of conditions that encourage effective leadership
- The maximization of private funds to support higher education
- The preservation, with the cooperation of all of higher education, of the private sector of higher education with its autonomy intact and its diversity maintained
- The enhancement of the research capabilities of higher education
- The maintenance of the internal quality of campus life.

We have discussed each of these areas of policy determination in Section 6. Colleges and universities vary so enormously in their

characteristics that these determinations can only take place institution by institution.

We believe that accreditation needs to be greatly improved as a backup to institutional efforts. There are suggestions that both the federal government and the states may abandon reliance on the mechanisms of accreditation developed by higher education. The federal government—in 60 programs administered by at least eight agencies and most of the states—has accepted private accreditation as an indication of institutional quality. Traditionally, also, within higher education, accreditation has been used to distinguish the marginal and less than marginal from the adequate programs in acceptance of credits and degrees. Now, additionally, there is a need to set some limits on the accepted forms of competition among the adequate and the more than adequate institutions; otherwise the whole level of competitive practices may decline. Both to persuade governments to accept higher-education-based accreditation and to police unfair competitive practices among accredited institutions of higher education, the associations with responsibility in these matters need to start using full-time and more meaningful standards in academic areas, to add consideration of competitive practices that reduce academic integrity. Better performance by the accrediting associations is the best defense against establishment of more direct governmental controls. In the meantime, the federal government and the states should continue to rely on private accreditation.

The States

Generally, as we see it, the period ahead will be a state period in terms of new initiatives and responsibilities for the welfare of higher education—as the prior 20 years were a federal period in terms of new initiatives. Fortunately, the states are now in better financial condition than they were five or ten years ago. The states generally have given good support to their systems of public higher education.¹ They need now to render substantial aid also to private higher education, wherever they have not already done so. We consider this to be a major challenge before them for the next 20 years. This can be done and should be done, given the prospect for declining student

¹For a detailed study of state financial support in each state in recent years, see Ruyle and Glenny (1978).

enrollments, without in any way reducing the per student support in public institutions. The states with the most private enrollments subject to support tend also to be the states with the greater prospective decline in public student enrollments and thus with more potential leeway to support the private sector. We continue to advise that, in providing support, major reliance be placed on tuition scholarships based on need, with shared support from the federal government.²

We have two great fears about state conduct. One is that some state financial planners will underestimate potential enrollments and will promise to their governors and their legislative committees more in the way of savings than can be realized if higher education is not to be greatly harmed. The other is that some educational and financial planners will see an opportunity to "rationalize," to seize control of systems of higher education, to make higher education an agency of state government, to do so in the name of saving money while cutting less those institutions that go along with the process. Higher education performs as a largely autonomous segment of society so much better than it would as just another government bureau. We caution against:

Overeager promises to save money on higher education, and
Plans to place systems of higher education under increased
state control.

We believe that the states generally should be prepared to maintain real per capita contributions to higher education at current levels. Such a policy will both create some leeway, as public enrollments go down, to give more aid to private colleges and to offset the higher cost per student for overhead as campus enrollments decrease, and also reduce burdens on taxpayers as per capita real income rises.³ A few states should raise their per capita contributions in real terms; several may want to consider adding additional community colleges or equivalent programs in comprehensive colleges and universities to make open access available on a

²See our report *Next Steps for the 1980s in Student Financial Aid: A Fourth Alternative* (1979b).

³See Supplement L, *State Support of Higher Education*.

nationwide basis; and a number, we believe, should establish Area Health Education Centers.⁴

We also advise states to:

- Prepare financing formulas that will encourage diversity and new initiatives, that make allowance for rising overhead costs per student as enrollments go down, and that permit institutions to keep the private funds they raise. The Foundations in several Big Ten universities are a good model for the latter purpose. On formulas, we specifically suggest that reductions be less than the reductions in student numbers, for example, a range of 0.6 to 0.8 reduction for each 1.0 decline in FTE⁵

⁴One of the influential recommendations in the Carnegie Commission's report, *Higher Education and the Nation's Health* (1970b) was for the development of Area Health Education Centers (AHECs), which would be affiliated with university health science centers, but would be located in communities at some distance from those centers and would conduct programs of decentralized education in the health professions. Among the many AHEC programs developed in the 1970s were those of 11 universities (in as many states) which were selected in 1972 for the first contracts with the federal government under the provisions of the Comprehensive Health Manpower Training Act of 1971. Recently, Charles Odegaard, president emeritus of the University of Washington, completed an evaluation of these 11 programs for the Carnegie Council in a report entitled *Area Health Education Centers: The Pioneering Years, 1972-1978* (1979), in which he provides much evidence, if not hard statistical data, that the projects are making a significant contribution to overcoming geographical maldistribution of health manpower and overspecialization in the medical profession.

⁵This will take into account rising overhead costs; the rising salary costs for an increasingly older and thus higher-paid faculty; costs of new and improved and experimental programs; costs of providing renovations of facilities and special programs for physically handicapped and deaf and blind students; costs of more and better programs in basic learning skills; costs of new and better laboratory and instructional equipment; costs of meeting added reporting requirements by state and federal governments; costs of some gradual increase in quality and variety of academic programs; and costs associated with having more part-time students to register, counsel, finance, feed, park, provide with library places and services, provide with health services, etc. For a discussion of some of these considerations, see *Academy for Educational Development* (1979).

We say a range of 0.6 to 0.8 percent with the expectation that the higher end of the range might apply to community colleges and the lower end of the range to research universities, with the other types of institutions spread in between, but closer to the 0.8 end of the range. We make this distinction because community colleges are heavily oriented toward current services. They will be affected by rising overhead costs per student, rising level of salaries with an aging faculty, etc. However, they do not have

- Introduce state equivalents of the Fund for Improvement of Post-Secondary Education (FIPSE)
- Stop preaudit controls over expenditures, and emphasize instead postaudit measurements of managerial performance
- Ease the possibility of transfers of funds within institutions, preferably through lump-sum appropriations
- Provide for portability of state financial aid to students
- Step in, as necessary, to assist mergers of institutions,⁶ which can be costly, and to help with close-outs—particularly the preservation of past records.

The states together, through regional associations and the Education Commission of the States nationally, may wish to:

- Encourage more sophisticated advance estimates of enrollments

the same responsibilities to the past and to the future that the research universities have. Research universities must serve the past in maintenance of research library collections, of museums, and of courses of study that reflect the heritage of the history of civilization (like departments of the classics) regardless of current enrollment fluctuations. They must also serve the future with the development of new research areas, of new scientific fields of teaching, of new specialties in established fields, particularly at the graduate level, before federal research funds and FTE enrollments support them. Thus, they need more financial leeway than do community colleges that more nearly follow current enrollments. Effective service to the present, the past, and the future, when enrollments are declining, all require some reasonable adjustments of financial formulas established in a period of enrollment growth.

We consider a range of 0.6 to 0.8 to be reasonable based on current knowledge. We suggest, however, careful study of this suggested range. In particular, it may turn out to be wise to lower the 0.6 figure.

⁶Millett (1976) describes the process of merger as "laborious" and almost certain to bring conflict and disagreement that may not subside for a decade or more. He warns against the expectation that mergers will have advantages for everyone involved or that mergers will accomplish miracles. Millett studied carefully the background, process, objectives, and consequences of 10 separate mergers that have occurred since the early sixties. Financial stress was clearly evident at the time of the merger in about half of the cases, and anticipated financial difficulties may have acted as a prod in most of the other instances. Financial aid from a state government can soften some of the economic blows of the merger, he suggests, but notes that only New York State has shown any disposition to offer that aid. Where public institutions are involved, the leadership of state officials can be crucial to a successful merger process. Given the expected financial stringencies of the eighties, the importance of public monies and public leadership in smoothing the process of merger will be greatly increased.

than many states now have—bad data give rise to bad plans?

- Assist interstate consortia and cooperative use of facilities, as has been done particularly under the auspices of the Southern Regional Education Board.

We should like to comment, additionally and briefly, on the state planning process. In a period of growth, when many new proposals are being made to the states, they act through their administrative officers and legislatures somewhat like a private foundation accepting this program and rejecting that. The institutions make the proposals. In a period of contraction, the process can be reversed. Then the state makes the proposals to cut back here and close out there. This is an enormous difference. The initiative shifts from the institution to the state. The process of cutting back and closing out by state action is politically more difficult, as experience in several states indicates, than that of exercising restraint on growth.

We recognize the need for states to insist in a period of contraction on the closing or merging of some institutions and the reduction of duplication among others. However, we suggest that reliance for contraction be placed mainly on the student market, letting the students decide which colleges and major programs within colleges will lose enrollments. We emphasize again, nevertheless, as we have done before, that colleges should maintain some reasonable balance among essential programs and not rely on student choices alone. Students, particularly as they get good advice

⁷We have examined all of the available state projections and plans, and nearly all states have one or both. We found the projections often to be inadequate and frequently, we believe, unduly pessimistic about enrollments. Also the plans, we believe, concentrate too heavily on the use of direct controls. On projections, we suggest in particular, where this has not already been done: attention to both public and private institutions, consideration of a range of data at least as comprehensive as that set forth in our Table 8, consideration of different subgroups as we do in Section 3, calculation of enrollments on an FTE (not headcount) basis, looking ahead at least 10 years. On plans, we suggest in particular, again where this has not already been done, consideration of both the public and private sectors, of the respective roles of the student market and direct government action in adjusting to declines, of the handling of mergers and close-outs, of support for interinstitutional cooperation and consortia, of statewide coverage by open-access institutions and by Area Health Education Centers (AHECS), of differentiation of functions among institutions, of minimum standards of fair academic practices.

from counseling agencies* (and we believe these agencies should be greatly strengthened) can probably make as good decisions, by and large, as can planners. And the process is so much easier politically—it is easier for the students to make the hard decisions one by one. For this process to work well, there need to be not only well-informed consumers but also fair competition among institutions based on the quality of their services. It is to assure more fair competition that we support tuition scholarships to students; these allow student choices to be made more on the basis of quality.

Thus, we suggest maximum constructive use of the student market to guide contraction.

We are doubtful about state-mandated review of academic programs. We believe that such review is better conducted by the institutions themselves, by the accrediting agencies, and by the students making their choices; and we question the wisdom of this great an intrusion into academic affairs. While we are against any fine-tuning of academic programs by state action, we recognize that the state may need to step in where there are very expensive large programs (like medical schools) in severe duplication of each other.

We recognize that states vary greatly in the prospective decline of their enrollments. There is more of a case to be made for full reliance on the student market where the decline is modest than where it is severe. Where it is severe, it may be better for the state to close, or better, merge campuses than to have them all deteriorate. Public institutions are unlikely to merge on their own account. We say "merge" because it is easier to merge than to close, as evidenced by the experience related in Section 4 of almost no recent closures of public institutions except under very exceptional circumstances. By contrast, there was a substantial number of mergers. Where enrollment declines are severe, we see the need for a plan on mergers and on

*The Educational Testing Service, for example, operates a program for the College Entrance Examination Board which helps match up students and colleges. The Student Search Service provides colleges with names of students who have requested participation, and institutions then contact candidates who possess characteristics they consider desirable. Students are afforded the opportunity to learn about institutions they may otherwise never hear of, thus extending the range of realistic choices available to them. A 1979 survey indicated that 34 percent of high school seniors who participated in the search the previous year were applying to at least one college they learned of through the Student Search Service (College Entrance Examination Board, 1979, p. 6).

preservation of records. We believe less of a case can be made for reductions of academic programs within institutions by state action since this impinges upon their autonomy, involves very detailed review, and institutions, in any event, will be under great pressure to drop high-cost, low-enrollment programs. States should also plan to preserve the records of private institutions that close, leaving their closures, however, to the student market and the decisions of their trustees. There are circumstances, but we think somewhat limited ones, where there is a "need to plan" (Connecticut Board of Higher Education, 1979, p. 54). While supporting the need to plan for mergers and close-outs, we question the advisability of setting enrollment quotas for individual continuing institutions to spread out enrollments among them, preferring instead that they be allowed to compete in the student market.

The Federal Government.

In addition to providing financial aid to students, the federal government has a major role in maintaining the research capacity of higher education—"the indispensable partnership for excellence" (The Ford Foundation, 1978, p. 3).⁹

We suggest:

- Continuation of the present level of support for research in colleges and universities at approximately 12 to 13 percent of total federal support of research and development (R&D), while raising total federal support of R&D to about 1.8 percent of the GNP, which it averaged in the 1960s; it has been around 1.3 percent in the 1970s, rising recently. This would help offset any decline at the state level as enrollment-driven financing goes down in real terms. It would also make possible urgently needed improvements in the quality of laboratory equipment and other facilities.
- Establishment of a Fund for the Encouragement of Young Scientists. The fund would be used over a twenty-year period to assist the flow of young scientists into faculty positions in selected fields in universities either directly or through absorption of all or

⁹The "special responsibility" of the federal government in this area has been urged by the Council in many other publications. See, for example, *The Federal Role in Postsecondary Education* (1975c).

part of the costs of existing tenure positions. It would be administered by the National Science Foundation (NSF) upon recommendations as to fields and means of distribution by the National Academy of Sciences and the National Academy of Engineering. We consider this to be a very important investment in the future. We are impressed by the carefully developed proposal of the Committee on Continuity in Academic Research Performance, sponsored by the Commission on Human Resources of the National Research Council.¹⁰ Recognizing that the shortage of positions for young scientists in research universities will become more acute until about 1991 and then will become less serious as retirement and mortality rates of existing faculty members rise, the committee recommended a program of five-year awards to particularly able scientists (some middle-aged and some relatively young) whose universities would undertake to open up new faculty tenure-track positions to recent Ph.D.s, with the number of awards gradually rising to a peak in 1991 and then declining. The costs of the recommended program would increase from \$2.1 million in 1981-82 to \$39 million in 1991-92 and then decline to the year 2000, and would be met partly by existing NSF funds and partly by increased appropriations. Emphasis would be placed on opening up some of the positions for women and members of minority groups. We suggest a similar but somewhat more flexible program, with provision for some awards directly to recent Ph.D.s and with ten-year awards to established scholars during the first decade of the program (the duration of awards to be reduced after that, as the shortages of positions become less serious). We, therefore, propose added appropriations in excess of the sums just listed, but not exceeding \$100 million in any one year.¹¹

- Encouragement, through appropriate tax policies, to industry and foundations to grant research funds to universities.
- Introduction of a policy to support research libraries and other

¹⁰See Supplement K, *Smoothing Out the Flow of Young Scientists into Universities*.

¹¹We also suggest augmentation of funds for the National Endowment for the Humanities and National Endowment for the Arts for the same purposes. We suggest that private foundations may also wish to assist young humanists and artists beyond what they now do.

research resources, including computers, by including within overhead on research contracts a standard 5 percent allowance for this purpose; the current level is 1 to 3 percent varying among institutions. This policy should be adopted as a supplement rather than as an alternative to existing programs, particularly Title II, Part C of the 1976 Education Amendments. Title II, Part C remains an important element in preserving the nation's research libraries and should be fully funded at its 1979 authorization level of \$20 million. Also necessary is the passage of legislation for a national periodicals center. Supplement J sets forth other policies to aid libraries.

We suggest that the federal government also consider:

- Policies to reallocate funds for student financial assistance to target them more on lower-income students, to create a more viable loan program, to place more emphasis upon student self-help, including through the College Work-Study program, and to assist the states with tuition scholarships (SSIG); all within existing total sums in constant dollars (Carnegie Council on Policy Studies in Higher Education, 1979b).
- Gradual increases in the funds allocated to the Fund for the Improvement of Post-Secondary Education.

We are disturbed not with the purposes of federal control over higher education but with their execution. We particularly support the purposes of the affirmative action policy. We make four proposals:

- Regulations should be issued only after improved advance consultation with representatives of higher education, including students and faculty members when they are affected.
- Regulations should not go beyond the purposes for which the money is appropriated; they should not have irrelevant requirements added on to them.
- A "Regulatory Impact Statement" should be required in connection with each set of regulations, modeled on Environmental Impact Statements, showing purposes to be achieved, costs of compliance including side effects, processes of advance consultation, consideration given to alternative methods to achieve the

same purposes, an indication of their appropriateness to higher education as distinct from other types of institutions, a date for full review and possible termination, and a provision for periodic reporting to Congress on their effectiveness.

- The zeal of bureaucrats pushing their own programs beyond the intent of the law and of lawyers trying in advance to cover every possibility of evasion and every potential case of litigation should be curbed.

Costs and benefits. The costs of the suggestions made above for new state and federal action are modest. They are more than offset by prospective declines in costs because of lower enrollments; these declines are both in current operating costs and in construction.¹² The consequence is that support of higher education will be a declining percentage of the GNP. (See Table 12.) More can be done for higher education and through it for the nation at substantially reduced shares of total federal and state revenues.¹³ The benefits of our proposals will be particularly:

The maintenance of a strong private sector of higher education
The continuation of a high capability for basic research
Improved student financial assistance programs.

More important, however, than state and federal action is action by the institutions themselves. Their futures are mostly in their own hands. There is not one set of decisions to be made by the federal

¹²There will be need for construction funds, however, even with declining enrollments. Old buildings need to be renovated. Even new buildings must be adapted for handicapped students, must meet mandated regulations on earthquake and fire safety, and so on. Some buildings are totally obsolete.

¹³Note that expenditures will decline more sharply as a percentage of real GNP if the rate of growth of GNP is 3.5 percent per annum than if it is 2.5 percent. During the 1980s, the labor force is projected to grow at an annual average rate of 1.1 percent. Therefore, a 3.5 percent rate of growth in real GNP implies a 2.4 percent rate of increase in productivity, while a 2.5 percent rate of growth in GNP implies a 1.4 percent rate of increase in productivity. If the rate of growth of GNP were as low as 2.0 percent (not shown in Table 12), the implied rate of increase in productivity would be 0.9 percent. The annual average rate of increase in productivity in nonfarm business from 1970 to 1978 was about 1.5 percent (computed from data in *The President*, 1979, p. 226).

Table 12. Current-funds expenditures and construction expenditures of institutions of higher education as percentage of gross national product, estimated, fiscal year 1979, and projected on the basis of several assumptions, fiscal year 1998

<i>Year and assumptions</i>	<i>Current-funds expenditures</i>	<i>Percentage of GNP Construction expenditures</i>	<i>Total expenditures</i>
<i>Estimated, 1978-79</i>	2.10%	0.29%	2.39%
<i>Projected, 1997-98 (in constant 1978 dollars)</i>			
<i>I. Annual average rate of growth of real GNP, 1978-79 to 1997-98 = 2.5%</i>			
Undergraduate FTE enrollment declines by 5 percent; postbaccalaureate enrollment remains constant	1.62	0.18	1.80
Undergraduate FTE enrollment declines by 10 percent; postbaccalaureate enrollment remains constant	1.59	0.17	1.76
Undergraduate FTE enrollment declines by 15 percent; postbaccalaureate enrollment remains constant	1.57	0.16	1.73
<i>II. Annual average rate of growth of real GNP, 1978-79 to 1997-98 = 3.5%</i>			
Undergraduate FTE enrollment declines by 5 percent; postbaccalaureate enrollment remains constant	1.39	0.15	1.54
Undergraduate FTE enrollment declines by 10 percent; postbaccalaureate enrollment remains constant	1.36	0.14	1.50
Undergraduate FTE enrollment declines by 15 percent; postbaccalaureate enrollment remains constant	1.34	0.13	1.47

Sources: Estimated expenditures for 1978-79 adapted from data in U.S. National Center for Education Statistics (1978d, tables 32 to 34). Projections by Carnegie Council. Note that some components of current-funds expenditures do not vary with enrollment; we have made reasonable estimates of increases in those components and have assumed that research expenditures increase along with GNP, as we recommend. Construction expenditures will be largely for replacement, which will be needed to some extent in a period of stable enrollment and to a lesser extent in a period of declining enrollment. Reductions in FTE enrollment result in reductions of 60 to 80 percent in expenditures for each FTE student below prior levels.

government. There are not 51 sets of decisions to be made by the federal government and the 50 states. There are 3,051 sets of decisions by the federal government, the 50 states and the 3,000 institutions. The future course of events depends upon all 3,051 sets of decisions.

We strongly urge that institutions, states, and the federal government, where they have not already done so, analyze what actions they should take and then take action.

Meeting the Problems of the Next Two Decades

1. A Checklist of Imperatives for Colleges and Universities

1. *Analyze All Factors Likely to Affect Future Enrollments*
Demography • Changing population mix • Labor market changes
• Type of institution • State population and fiscal trends
2. *Insist on Institutionwide or Systemwide Planning*
Anticipate future problems • Avoid moving from crisis to crisis •
Consider prospects for each campus in multicampus institutions
3. *Encourage Strong Leadership by Chief Executive Officer*
Give him/her ample authority and assurance of reasonable length
of term of service
4. *Intensify Recruitment Efforts and Reduce Attrition*
Rely on methods appropriate to academic life • Avoid deceptive
advertising
5. *Give High Priority to Maintenance of Quality*
Maintain high standards for faculty • Insist on quality in teaching
• Maintain distinctive characteristics of institution • Protect
internal life of institution • Improve achievement capacity of
graduates • Emphasize high standards of scholarship—and of
research in research-oriented institutions • Preserve institutional
integrity
6. *Encourage Innovation and Flexibility*
Develop curriculum that is sensitive to change but also to emphasis
on general education • Establish fund for innovation • Avoid too
high a proportion of tenured-in faculty. Encourage new programs
and instructional techniques
7. *Strive for Most Effective Use of Resources*
Avoid excessive number of courses and proliferation of degrees •
Review student-faculty ratios by department • Maintain adequate

support personnel • Avoid excessive cuts in plant maintenance and library acquisitions

8. *Seek Support from Private Sources of Funds*

Devise imaginative ways of approaching alumni and other donors

9. *Concentrate on proposals to federal and state governments that will result in better programs at no increase in the real levels of federal and state expenditures; that acknowledge the likelihood of some reductions but not proportionately to reduced enrollments.*

II. A Checklist of Imperatives for States

1. *Maintain At Least the Current Level of Per Capita Funding of Higher Education in Constant Dollars*

This principle should release funds for support of private higher education in a period of declining enrollment • States below national average in per capita funding should consider increasing it

2. *Provide Need-based Tuition Scholarships for All Needy Students*

Require reasonable self-help from students • Consolidate needs test with that of federal government to eliminate inequities • Provide for portability of scholarships

3. *Support Private Higher Education While Maintaining Its Autonomy*

Emphasize student aid as chief means of support • Contract for services of private institutions where appropriate • Maintain state tax policies that encourage private giving to both private and public institutions

4. *Assist in Developing Plans for Adaption of Higher Education to Changing Needs*

Encourage elimination of weak or overly specialized programs • Develop plans for mergers of institutions facing deficient enrollments • Avoid bailing out institutions • Encourage adaptation of programs where this will forestall closures

5. *Avoid Excessive Regulation of Higher Education*

Consult with representatives of higher education before adopting new regulations • Avoid preaudit controls over expenditures. Provide for easy internal transfer of funds

6. *Use Flexible Funding Formulas*

Encourage diversity among institutions and within institutions • Establish a fund for innovation modeled after FIPSE • Use

funding formulas that adjust for high-cost programs and rising overhead costs per student

7. *Encourage Institutional Consortia and Interstate Cooperation*
Support consortia that will permit greater diversity as well as economies • Seek interstate cooperation to provide for highly specialized and expensive programs and to develop improved enrollment and financing projections
8. *Ensure statewide coverage by open-access institutions and by Area Health Education Centers*
9. *Expend public funds, as far as possible, as though they were private funds*

Provide substantial autonomy for all institutions in their use of funds subject to competition in getting results and, wherever possible, make expenditures via private individuals as in state tuition scholarships.

III. A Checklist of Imperatives for the Federal Government

1. *Improve Federal Student Aid Provisions Without Increasing Their Cost*

Target more aid to low-income students through revisions of the needs test and through a special BEOG override and modifications

• FEOG • Require self-help from all students except in hardship cases • Replace the existing inadequate, costly, and inequitable loan programs by a National Student Loan Bank • Increase SSIG funding substantially so as to encourage fully developed state scholarship programs in all states • Avoid tuition tax credits, which are regressive and self-defeating

2. *Restore Policy of Adequate Support of Research*

Increase R&D appropriations as a percentage of GNP to levels of the 1960s and maintain that level thereafter • Adopt special program to maintain flow of young scholars along the lines of the proposal of the Commission on Human Resources • Avoid stop-and-go research financing • Increase funds to support scholarship in the arts and humanities • Provide higher and stable support for research libraries • Finance improvements in research facilities and equipment

3. *Encourage Private Giving to All of Higher Education*
Maintain existing tax incentives for contributions
4. *Avoid Excessive Regulation of Higher Education*
Consult with representatives of higher education and adopt impact statements for new regulations • Review existing regulations to eliminate unnecessary reporting and other burdensome requirements • Consolidate enforcement in a single agency, where many are involved, as in affirmative action • Avoid infringements on admissions policies, as in the case of medical schools, and other encroachments on autonomy
5. *Continue Health Manpower Policies Aimed at Overcoming Geographical Maldistribution and Overspecialization*
Maintain stable support of medical and dental education, but discourage establishment of new medical schools • Continue support of National Health Service Corps and encourage new AHEC programs in lagging states
6. *Gradually Increase Support for FIPSE*
7. *Spend public funds, as far as possible, as though they were private funds*
This includes substantial autonomy for the public foundations; and expenditures via private individuals, as in the BEOG program.

Higher Education and the World of the Future

The Carnegie Council has had an opportunity over the past six years to survey important aspects of American higher education and to meet with leaders in many parts of the nation and to hear about their experiences.

We end our review of the past and our efforts to preview the future with certain convictions—some of them we started with and they remain unchanged, others have been intensified, still others modified:

Higher education adds greatly to the quality of many individual lives through higher incomes but, beyond income and what income can buy, to the better use of the gift of time.

It leads to better-informed and more active citizens, and this is increasingly essential in a modern democracy.

Equality of opportunity has been substantially increased for minorities and for women and for low-income young persons generally. More of each are now entering the more prestigious and higher-paid professions and occupations. Yet we have been disappointed. Removing or reducing financial obstacles to higher education has not led to the increased attendance we anticipated, particularly for low-income persons. The home,

the local community, the nature of the elementary and secondary schools are such strong influences that provision of minimum financial opportunity to participate in higher education has a decisive influence in advancing fewer lives than we once expected. We have also discovered that fewer young persons (particularly majority males), given freedom of choice, seem to want to go to college than we once expected. Yet we remain convinced that higher education has the major responsibility in the nation to find high talent and to develop advanced skills among all elements of the population. Scientific and technological advance is highly dependent on our research universities. The decline in their support over the past decade and more has injured the nation. Yet we again remain of the opinion that higher education has the greatest possibility of any institution for advancing knowledge.

The United States has the most adequate all-around system of higher education in the world. It offers access to more of the population and finds talent more adequately in all parts of society than in any other nation, and it offers students more range of choice. Its research contributions since about 1930 have been preeminent. It has avoided the decline into anarchy of Italy, the subservience to state ideology and stifling bureaucracy of Eastern Europe, the imposition of costly new forms of governance as in France, Holland, and West Germany, the submergence in a cultural revolution as in China from 1966 to 1976, the denigrating hierarchical system of institutions of Japan, the exploitation of institutions for political purposes endemic in several Latin American countries, and the debasement of the academic currency as in so many institutions in India.

We may underestimate the current strengths and ability of American higher education to adapt, survive, and advance. We have been greatly impressed by the boundless variety among and within institutions, and by the pervasive dynamism that animates the system—much more than we realized in advance. And we are increasingly convinced of the importance of both of these characteristics.

Our pluralistic system of governance gives a large and effective role to competition within and between institutions: com-

petition for students, for research funds, in service to society, in the advancement of scholarship. We should preserve the pluralism and enhance the fair competition that it engenders. Our system has the capacity to improve in the quality of its performance even as it declines quantitatively in enrollments.

Higher education in the United States is a great national resource that has been preserved by the generally thoughtful care of the surrounding society and the devotion of many of its participants. In our tendency to criticize and even berate, we sometimes forget how fortunate we are.

Much has been accomplished for individual Americans and for American society, yet there is still some unfinished business:

We have not yet spread universal access, defined as availability of attendance at a postsecondary institution within commuting distance on the basis of a high school diploma, to all populated parts of the nation.

We have a long way to go to make possible the participation at the highest levels of academic life of the ablest persons regardless of race, sex, and family income.

These goals should be met by the year 2000.

We also have some new business, and in particular:

Introducing a more global perspective into higher education and through it to other levels of the educational system

Guiding the use of the new electronic technology to assure that the programs are of high quality and are not used for the purpose of economic or political exploitation

Identifying the most productive areas for new research, such as sources of energy and preservation of the environment, shifting resources to them, and prosecuting them actively.

While we have a sense of great pride in what has been accomplished and great faith in the capacity of higher education for future contribution, we still have concerns:

That the competition for students over the next two decades may be managed in ways that lead to a decline in academic quality, in integrity of conduct, in the balance among the many

intellectual fields that constitute the universe of knowledge

That, in the absence of growth, institutions may lose their dynamism and flexibility, may succumb to counterproductive defensive reactions, may become a focus of dissatisfied expectations; that the tone of the internal life of many institutions may degenerate toward mutual suspicion and resignation to harsh fate

That diversity among institutions may be reduced; and that the heavy hand of government may tend to a homogenization of policies and practices that will stifle new efforts at distinctive styles and approaches

That equality of results by regulation may gradually come to replace equality of opportunity in fair competition; the former reducing and the latter elevating average performance

That some of the effectiveness and creativity of students and scholars associated with high morale and a belief in high purpose may be eroding.

Yet, despite these concerns, we believe that higher education will make essential contributions to the world of the future:

To a more participative society of a higher quality; to more people taking active charge of their lives; to more people taking part in the affairs of their community, state, and nation; to more people escaping the ancient shackles of ignorance and domination by others

To a more universal society as higher education adds to knowledge about and concern for the whole world, creates expanding communities of colleagues and friends, intensifies and improves the networks of communication

To societies more capable of self-renewal, not subject to decay and decline, through the influence of new knowledge, critical self-evaluation, constructive suggestions for the future.

Few other institutions have such capacity for the "improvement of the welfare of mankind around the world." The further cultivation of "man's unconquerable mind" may be the one best hope for a future greatly enhanced over the present we now know.

Appendix A

Carnegie Council Surveys

The Carnegie Council on Policy Studies in Higher Education has made an extensive and continuous effort to keep in touch with developments on the nation's campuses. As a part of that effort, it has sponsored or conducted a series of special studies. The latest of these are the Carnegie Council's Surveys of Institutional Adaptations to the 1970s conducted in 1978. These surveys are described in some detail in this Appendix. Before presenting that description, however, it may be useful to review the contributions made by several prior surveys conducted under the sponsorship or direction of the Carnegie Commission on Higher Education or the Carnegie Council on Policy Studies in Higher Education. In chronological order, with their full titles, and the text reference used to identify them in this and other reports,¹ these surveys are as follows:

In 1968-69, under Carnegie Commission sponsorship, Harold Hodgkinson conducted studies of changes in higher education during the previous decade. Much of his data was gathered from governmental sources. This was supplemented, however, by a survey of 1,230 presidents of institutions of higher education. This questionnaire focused on specific changes that had taken place. Hodgkinson supplemented his survey findings with data gathered in case studies of five institutions. The results were reported in *Institutions in Transition* (Hodgkinson, 1971).

¹See References for titles of publications in which survey findings are reported.

<u>Date</u>	<u>Survey Title</u>	<u>Text Reference</u>
1969	Survey of Institutions in Transition	Hodgkinson, 1971
1969	Carnegie Commission Surveys of Undergraduates, Graduate Students, and Faculty Members*	Carnegie Surveys, 1969
1974	Survey of Changes in Enrollments and Financing	Glenny, Shea, Ruyle, and Freschi, 1976
1974	Survey of Changing Practices in Undergraduate Education	Blackburn and others, 1976
1975	Carnegie Council Catalog Study	Catalog Study, 1976 (not published)
1975	Carnegie Council Surveys of Graduate Students and Faculty*	Carnegie Surveys, 1975
1976	Carnegie Council Survey of Undergraduates*	Carnegie Survey, 1976
1978	Carnegie Council Surveys of Institutional Adaptations to the 1970s	Carnegie Council Surveys, 1978
1979	Carnegie Council Site Visits	Site Visits, 1979 (not published)

*Collectively referred to as Carnegie Surveys, 1969-70, 1975-76.

In 1969, a survey of undergraduates, graduate students, and faculty members was conducted under the sponsorship of the Carnegie Commission on Higher Education and the American Council on Education with support from the U.S. Office of Education. Usable questionnaires were received from approximately 60,000 faculty members, 30,000 graduate students, and 70,000 undergraduates. Some of the findings were reported in *Teachers and*

Students, edited by the director of the project, Martin Trow (1975). Data from the survey are now accessible through the Survey Research Center at the University of California, Berkeley.

In summer 1974, a "Survey of Presidents' Response to Changes in Enrollments and Financing" was conducted for the Council by Lyman Glenny and members of the staff of the Center for Research and Development in Higher Education at the University of California, Berkeley. Usable responses were received from 1,227 institutions and yielded information on changes that took place on American campuses between 1968 and 1974. The basic report of this study (Glenny and others, 1976), was published as a technical report of the Council. Many of the findings were also reported in *More than Survival* (The Carnegie Foundation for the Advancement of Teaching, 1975) and other publications of the Council.

Under the Council's sponsorship, Robert Blackburn and his associates at the University of Michigan conducted detailed studies of the catalogs of 271 representative colleges and universities to determine trends and changes in their curricula between 1967 and 1974. The findings of this study were released in a technical report (Blackburn and others) published by the Council in 1976. The Council's staff conducted further catalog studies to update the findings of Blackburn and his colleagues and to identify trends in educational practices. There has been no formal written report of the findings from the staff studies, although the information that was obtained was reported extensively in *Missions of the College Curriculum* (The Carnegie Foundation for the Advancement of Teaching, 1977) and *Handbook on Undergraduate Curriculum* (Levine, 1978).

In order to examine once again the experiences and attitudes of undergraduates, graduate students, and faculty members in American colleges and universities, national surveys were conducted in 1975 and 1976 under the direction of Martin Trow at the Survey Research Center of the University of California, Berkeley. Tabulations of data from this survey drew on responses from about 25,000 individuals in each survey group. The information that was yielded included demographical descriptions of the participants in higher education, perceptions of their roles in governance, political and religious orientations, views on certain social questions of current interest, work and study practices, and many other significant

matters. These surveys were particularly useful because, to a considerable extent, they updated the surveys of undergraduates, graduate students, and faculty members conducted under Professor Trow's direction in 1969. The information provided by the Carnegie Council's National Surveys of 1975 and 1976 has been utilized in several of the Council's reports. A technical report (Roizen, Fulton, and Trow, 1978) on these surveys is available from the Center for Studies in Higher Education, University of California, Berkeley. A few reproductions of the marginals for each of the surveys are available from The Carnegie Foundation for the Advancement of Teaching. Inquiries concerning access to the survey data should be addressed to the Center for Studies in Higher Education at the University of California, Berkeley.

In this final report of the Carnegie Council and in two of the technical reports that are associated with it (Levine, forthcoming; Stadtman, forthcoming), reference frequently is made to the Carnegie Council Surveys of 1978. These are formally known as the Council's Surveys of Institutional Adaptations to the 1970s. To some extent they update information obtained in the surveys conducted by Lyman Glenny in 1974, but they are considerably more comprehensive and involved responses not only from college and university presidents but also from deans of student affairs and chief academic, financial, or planning officers of each institution. The surveys were conducted under the direction of Verne A. Stadtman, associate director, and Arthur E. Levine and John Shea, senior fellows of the Carnegie Council. Technical coordination was provided by Sura Johnson. Staff assistance was also provided by Steven Archibald, C.E. Christian, Sandra Elman, Sandra Loris, Lillian North, Rachel Volberg, Claudia White, Keith Wilson, and Mitch Zefel. We deeply appreciate the cooperation of the Educational Testing Service (E.T.S.), and particularly Richard Millard, Michael Walsh, and Judith Hirabayashi, all members of the E.T.S. staff, for counsel and assistance throughout the project and in providing data processing services. We are particularly appreciative of the presidents, other administrators, and students whose participation was crucial to the survey's success. We realize that, in many cases, their cooperation involved a considerable investment of time. Their contribution to our understanding of what is happening to higher education on the eve of the 1980s has been immense.

The surveys were pretested by members of the Council's staff at 11 California institutions—American River College, California State University-Hayward, Dominican College, Grossmont College, International University, Los Medanos College, Merritt College, Mills College, University of California at Davis, University of the Pacific, and University of San Diego. The Council expresses its thanks to these institutions for their contribution to the effectiveness of the final survey instruments.

In all, administrators of 870 American colleges and universities were invited to answer the questionnaires. The questionnaire directed to college and university presidents (Questionnaire A) was concerned with general trends, changes in control, internal governance, collective bargaining, and relationships with the outside community and with state and federal governments. The questionnaire also asked for the presidents' generalized perceptions of the most important positive and negative changes at their institutions during the past decade, and their views of the major issues that higher education will face between now and the end of this century. To provide a different perspective on the matters reported by student affairs officers, presidents also were queried about student attitudes and asked to describe college students in the late 1970s.

The questionnaire directed to vice presidents of financial affairs or planning officers (Questionnaire B) explored the impact of changes in enrollment on faculty and student recruiting; personnel and tenure policies; admissions, guidance, and retention policies; selectivity; curriculum; scheduling and location; student/faculty ratios; use of available funds and student aid funds.

The questionnaire directed to student affairs officers (Questionnaire C) sought information about how undergraduates had changed and how institutions had responded to these changes; how students were involved in governing themselves and their institutions; what they were interested in (as revealed by their participation in various clubs and activities); how and what they protested. To provide perspective on the information supplied by planning officers, questions on retention policy and curriculum flexibility also were asked. The questionnaires were printed and first mailed at the end of March 1978.

From *A Classification of Institutions of Higher Education: Revised Edition* (1978), a classification of 3,072 campuses of higher

education listed by the U.S. Office of Education, the staff rejected (1) all specialized and nontraditional institutions, (2) all religious schools training clergy only for religious functions, and (3) all schools not located in the 50 states or the District of Columbia. The remaining 2,481 campuses, divided by the *Carnegie Classification of Institutions of Higher Education* (1978) into 17 control (public and private) and classification categories, constituted the study universe. Seeking information from at least 30 campuses in each Carnegie classification and control category and assuming a 50 percent response rate, the staff chose at least 60 campuses from each Carnegie classification and control category for the sample. In each category with fewer than 60 campuses in the universe, every campus in the universe was chosen. This was the case for Research Universities I and II, Doctorate-granting Universities I and II, and public Liberal Arts Colleges II. Left with 2,313 campuses in other categories from which to draw our sample, the staff decided to use 120 campuses in the largest category (public Two-Year Colleges and Institutes) because of an anticipated low response rate among these institutions. The size of the sample in all remaining categories with between 60 and 909 campuses in the universe was determined by extrapolation, using a table of random numbers to select the first campus and then every third, fifth, or whatever. The resulting "original sample" contained 799 institutions. Five pretest institutions were eliminated, and the sample was adjusted in other minor ways until it stood at 794 campuses.

Questionnaires were mailed in March 1978 to liaison officers at institutions whose presidents had agreed to participate in the survey. In April, it was determined that an insufficient number of postcard responses was being received in three categories: private Comprehensive Universities and Colleges I, public Comprehensive Universities and Colleges II, and private Comprehensive Universities and Colleges II. By adding 20, 28, and 28 campuses respectively to these control categories in the "original sample," the sample was increased to 870 campuses.²

²Questionnaires also were sent to and received from 130 additional women's and black institutions, but their responses were not included in basic tabulations (unless otherwise specified).

The achieved response rate,³ that is, the proportion of institutions eligible and able to participate in our study and choosing to do so (before the cutoff date), was 68.7 percent for complete and partial respondents; 66.9 percent for Questionnaire A; 67.6 percent for Questionnaire B; and 68.1 percent for Questionnaire C.

Response rates for each questionnaire varied only slightly because 95 percent of the institutions returning at least one questionnaire returned full sets of three questionnaires. However, response rate by Carnegie type and control shows greater variation (Table A-1), from 47.1 percent for private Two-Year Colleges (sample number=71) to 94.7 percent for private Doctorate Universities I (sample number = 19). Still, the variation is not great; except for private two-year colleges, Carnegie control and classification types returned questionnaires at a rate of close to 60 percent or higher, and the average rate of return (exclusive of private Two-Year Colleges) was 74.9 percent. With a response rate of 47.1 percent, private Two-Year Colleges stand apart as markedly more reluctant to participate in the survey, probably because the lengthy and detailed questionnaires were unsuited to their type of institution: some of these schools are very small with limited staff resources; others offer a specialized curriculum (for example, funeral services or dental hygiene) or mission (preparing clergy for their duties).

The different sample ratios and different response rates within the 17 control and Carnegie types made a differential weighting of institutions necessary. A series of weights was developed for each Carnegie type and control category. The "weight unadjusted for nonresponse" is the reciprocal of the sampling ratio; the "weight adjusted for nonresponse" is the reciprocal of the ratio of respondents to the "revised universe" within the appropriate sampling stratum.

Looking for possible sampling or response bias, the universe of 2,481 institutions, our sample of 870 institutions, and the 591 respondents to our survey were compared. These three-way comparisons concerned control, regional distribution by control, enrollment size by control, relative changes in enrollment (between 1969

³Achieved response rates were calculated as the number of responding institutions divided by the number of sampled institutions minus those 10 schools that might well have been eliminated from the sample because of aggregate responses (schools listed separately by the U.S. Office of Education that consider themselves one unit and returned a single set of questionnaires) or closings and mergers.

Table A-1. Response rates for Carnegie Surveys, 1978

	Public & Private		Public		Private	
Research Universities I						
Universe	51		29		22	
Sample		50		28		22
Respondents			40		23	17
Research Universities II						
Universe	47		33		14	
Sample		47		33		14
Respondents			37		27	10
Doctorate-granting Universities I						
Universe	56		38		18	
Sample		56		38		18
Respondents			44		29	15
Doctorate-granting Universities II						
Universe	30		19		11	
Sample		29		19		10
Respondents			25		18	7
Comprehensive Universities and Colleges I						
Universe	375		247		128	
Sample		154		70		84
Respondents			116		48	68
Comprehensive Universities and Colleges II						
Universe	207		101		106	
Sample		179		88		91
Respondents			112		51	61
Liberal Arts Colleges I						
Universe	123		—		123	
Sample		66		—		66
Respondents			47		—	47
Liberal Arts Colleges II						
Universe	459		11		448	
Sample		98		11		87
Respondents			61		9	52
Two-Year Colleges						
Universe	1134		904		228	
Sample		191		120		71
Respondents			109		76	33
Total						
Universe	2481		1383		1098	
Sample		870		407		463
Respondents			591		281	310

The N's for the universe are the number of institutions actually listed for each designated Carnegie classification and control type in *A Carnegie Classification of Institutions: Revised Edition* (1978) minus the number of schools not located in the 50 states or in Washington, D.C.

and 1977) by control. In addition, the responding institutions and the full sample were compared along the dimensions of selectivity and age. The resulting tabulations satisfied us that our sample and respondents adequately represent American higher education.⁴

Soon after the first tabulations of the written responses were available, members of the Council's staff visited 28 institutions across the country to obtain a first-hand impression of the ways in which campuses were adapting to current trends and circumstances. These visits also provided an opportunity to clarify ambiguous responses to items in the questionnaires, and to obtain more detailed information about certain programs and practices that came to our attention through the surveys. On each campus, the staff members visited with the president, the official who had responded to the questionnaire for vice presidents or planning officers, and a group of from five to ten students. Many of the findings from these site visits have been presented in this and related reports of the Council.

Copies of the questionnaires used in the Carnegie Council's 1978 survey may be obtained from The Carnegie Foundation for the Advancement of Teaching, which also retains the master tapes on the survey.

⁴Greater detail about these comparative tabulations will be available in a technical report being prepared for the custody of The Carnegie Foundation for the Advancement of Teaching.

Appendix B

Glossary and Abbreviations

FTE enrollment: "Full-time equivalent" enrollment. FTE enrollment is defined as the number of full-time students plus some fraction (usually $1/3$) of the number of part-time students.

Headcount enrollment: In this form of enumeration, each student, whether attending school full-time or part-time, counts as one enrollment. See *FTE enrollment* for contrast.

FTE faculty: "Full-time equivalent" faculty. FTE faculty is defined as the number of full-time faculty members plus a fraction (usually $1/3$) of the number of part-time faculty members.

Educational and general expenditures: Usually includes all the activities performed at institutions of higher education directly connected with instruction and research. Indirectly connected activities, such as providing residence halls, feeding students, and other services, and construction are excluded from educational and general expenditures.

Monetary outlays for higher education: The net expenditure for educational and general functions of the institutions of higher education and the outlays of students and their families for tuition and living expenses, including student aid.

Disposable income: Personal income minus that portion paid in income taxes.

Real per capita contributions: State expenditures for contributions to higher education divided by the total population of the states and adjusted for changes in consumer prices.

Instructional costs: The sum of current operating expenditures and capital costs. Current operating expenditures include funds expended for instruction and departmental research, libraries, plant operation and maintenance, and an allowance for overhead. Capital costs consist of depreciation of the buildings and equipment plus an allowance for the income that could have been earned on the capital investment. Student aid, organized research, auxiliary enterprises, and sales and services are not included in instructional costs.

Foregone earnings: The wages or salaries that would have been paid to students if they were not enrolled in school and were employed full-time.

Total economic costs: The sum of the current costs expended by the institutions for instruction, the living costs of the students, and the foregone earnings of students.

BEOG: Basic Educational Opportunity Grants. These are federally funded grants available for needy undergraduate students.

SEOG: Supplemental Educational Opportunity Grants. These are federally funded grants made directly to institutions of higher education who then award funds to students of exceptional financial need.

SSIG: State Student Incentive Grants. The SSIG program provides for federal matching grants to the states for "need-based" state scholarships and grant programs.

FIPSE: Fund for the Improvement of Post-Secondary Education. There is a federal FIPSE designed to promote innovation, and several states have adopted similar programs.

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